

226

CITY COUNCIL OF SINGAPORE



ANNUAL REPORT OF THE
HEALTH DEPARTMENT
1955



PRINTED AT THE GOVERNMENT PRINTING OFFICE, SINGAPORE,
BY A. G. BANFIELD, GOVERNMENT PRINTER

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BY

H. R. MORRISON, M.B., CH.B., D.P.H.
City Health Officer

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HEALTH DEPARTMENT
1922

BY
THE HEALTH DEPARTMENT
OF THE DISTRICT OF COLUMBIA

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CITY HEALTH DEPARTMENT

I HAVE the honour to submit my report on the working of the Health Department during the year 1955.

When reading this report and appendices it must be borne in mind that the statistics quoted are uncorrected for "inward" or "outward" transfers unless otherwise stated; that patients from outside the town entering hospitals and other institutions providing medical facilities in the town adversely affect our Death and Infectious Diseases Rates; that the age and sex distribution of our population is still abnormal; and that the number of deaths shown as due to the various diseases must necessarily be inaccurate, as something like 20 per cent of the persons who die in Singapore have had no medical advice or treatment before death, and the causes of their deaths have had to be surmised by Inspecting Officers without the aid of clinical observations or autopsies.

MID-YEAR POPULATION

The Registrar of Statistics' figure for our estimated mid-year population, on which the statistics in the appendices are based is shown by races in the table which follows:—

ESTIMATED MID-YEAR POPULATION BY RACES, 1955

Malaysians	...	...	...	91,223
Chinese	...	...	...	671,243
Indians and Pakistanis	...	...	...	67,726
Europeans	...	...	...	11,435
Eurasians	...	...	...	9,896
Others	...	...	...	9,977
Total				861,500

Details concerning notifiable infectious disease, vital statistics, etc. and the work carried out by the various sub-departments are set out in appendices as follows:—

A—Notifiable Infectious Diseases.

B—General measures to combat spread of Infectious Diseases—Vaccination, etc.

C—Birth and Still-Birth Statistics.

D—General Death Rate, Infant Mortality Rate, Neo-natal Rates, etc., Principal Causes of Death, Death by whom certified.

E—Markets, Food, Licences Issued, Abattoirs, Burial Grounds; and in the appended reports and returns of:—

Anti-Mosquito Department.

Analyst.

Bacteriologist.

Infant Welfare Department.

Superintendent, Middleton Hospital.

Market Inspector.

Superintendent, Abattoirs.

Chief Sanitary Inspector.

Medical Officer i/c. Staff.

SUMMARY OF PRINCIPAL STATISTICS, 1955

BIRTHS AND DEATHS ETC.—ALL RACES COMBINED

Total births registered ...	42,090
Total deaths registered ...	8,236
Excess of births over deaths ...	33,854
Birth Rate ...	48.86
Death Rate ...	9.56
Malaria Death Rate ...	.02
Infantile Mortality Rate ...	51.60
Neo-natal Rate ...	25.80
Still-Birth Rate per 1,000 live and still births	17.39
Maternal Mortality Rate per 1,000 live-births	.97

DEATHS BY WHOM CERTIFIED

	1954 Per cent	1955 Per cent
Medical Practitioners ...	65.25	64.56
Inspecting Officers ...	22.45	22.22
Coroner ...	12.30	13.22

NOTIFIABLE INFECTIOUS DISEASES IN 1955

	Cases Notified	Deaths
Tuberculosis (all forms) ...	3,577 (including 598 non-residents)	879
Typhoid ...	131 (including 31 non-residents)	11
Paratyphoid ...	1 (including 1 non-residents)	Nil.
Diphtheria ...	459 (including 112 non-residents)	44
Leprosy ...	179 (including 59 non-residents)	1
Poliomyelitis ...	20 (including 11 non-residents)	3
Small-pox, Cholera, Plague	Nil.	Nil.

DEATHS CERTIFIED AS DUE TO SOME OF THE NON-NOTIFIABLE
INFECTIOUS AND PARASITIC DISEASES IN 1955

	1954	1955
Dysentery—Bacillary ...	15	3
Unspecified ...	14	11
Amœbic ...	15	11
Malaria ...	22	14
Influenza ...	21	20
Whooping Cough and Complications ...	—	1
Measles and complications ...	17	22
Leptospirosis icterohæmorrhagica (Weil's Disease) ...	3	1
Tetanus ...	18	19

NON-NOTIFIABLE INFECTIOUS DISEASES TREATED AT THE
MIDDLETON HOSPITAL IN 1954 AND 1955

	1954	1955
Measles and Rubella ...	183	200
• Whooping Cough ...	10	5
Amœbic Dysentery ...	122	136
Bacillary Dysentery ...	18	17
Clinical Dysentery ...	34	35

VACCINATION

Age Group (0-1)	...	...	31,802	31,744
Age Group (1-5)	...	...	1,451	1,357
Age Group (5 and over)	...	...	124	110
Total Vaccinated and Revaccinated	...	...	33,377	33,211

MATERNITY AND INFANT WELFARE DEPARTMENT HOME VISITS
BY SISTERS AND HEALTH VISITORS

	1954	1955
Mothers visited by District Sisters within 10 days of confinement	21,340	19,924
Visits by Health Visitors to individual new babies	30,924	31,182
Subsequent visits by Health Visitors to new babies	61,771	61,885
Visits to expectant mothers	5,616	6,706
Visits made in connection with Anti-Diphtheria Immunisation	5,805	2,766
Total visits to homes by Sisters and Health Visitors	125,456	122,463

ATTENDANCES AT CLINICS

	1954	1955
<i>Infants (0-1)</i>		
1st attendances	22,383	19,729
Subsequent attendances	118,175	122,019
Total attendances	140,558	141,748
<i>Preschool Children</i>		
1st attendances	4,379	3,159
Subsequent attendances	3,425	2,098
Total attendances	7,804	5,257
<i>Expectant Mothers</i>		
1st attendances	3,643	4,067
Subsequent attendances	9,336	9,897
Total attendances	12,979	13,964

DIPHTHERIA IMMUNISATION—COMPLETE COURSES

	1954	1955
Infants (0-1)	10,616	8,367
Preschool children (1-5)	25,762	4,621

Of the 8,367 infants immunised at the Clinics during the year 417 were immunised against whooping cough as well as diphtheria.

COUNCIL FREE MIDWIFERY SERVICE

	1954	1955
Confinements attended by Council Midwives	1,426	1,210
Visits paid to cases discharged from Government Maternity Hospital three days or so after confinement	2,862	2,843
Visits subsequently paid to known cases of confinement not attended by Doctors or Midwives	118	160

CONDUCTION OF CONFINEMENTS

	1954	1955
Government Maternity Hospital	19,692	22,238
Private Maternity Homes and by Private Doctors ...	3,999	3,159
Private Midwives	14,793	15,879
Council Midwives	1,426	1,210
No skilled attention at confinement	1,253	971
Total	41,163	43,457

HEALTH OF STAFF

AVERAGE STRENGTH OF JUNIOR AND SUBORDINATE STAFF AND DAILY RATED EMPLOYEES STATIONED IN SINGAPORE IN 1955

*(a) Approximate number of Junior and Subordinate Staff stationed in Singapore including temporary staff paid out of "Extra Clerical and Technical Assistance Votes" including females 2,897

†(b) Approximate number of Daily Rated Employees stationed in Singapore including females and juveniles 9,299

	Staff (a)	Daily Rated Employees (b)	Total (a) and (b)
New cases attended at dispensaries ...	6.060	28.131	34.191
Total attendances including first visits at dispensaries	16.237	98.153	114.390
Examination for physical fitness ...	1.953	858	2.811
Visits paid to homes by M.O. i/c. Staff ...	79	87	166
Cases treated by Private Doctors ...	1.770	6,735	8,505
Days Sick Leave granted including leave on account of Tuberculosis by:—			
(a) M.Os. i/c. Staff	8.927	58,126	67,053
(b) Private Practitioners	4.828	20,032	24,860
(c) Hospitals	2.253	16,975	19,228
Total	16.008	95,133	111.141
Days leave granted on account of Tuberculosis	1.079	4,620	5,699
Average number of days sick leave including tuberculosis leave granted per person employed in Junior, Subordinate and Temporary Staff together with Daily Rated Employees in 1955	5.50	10.23	9.11

* Figure obtained by Assistant Secretary (Establishments) from Departments.

† Figure obtained from Establishment Officer (Labour).

During the year the system of Medical Record Cards for Daily Rated Employees was completed and all the Daily Rated Employees resident in Singapore are now included. The attendances at the dispensaries increased during the year, there being a total of 114,390 attendances compared with 93,800 last year. The total leave granted was 111,141 days compared with 109,273 days last year, but of this leave the Medical Officers in charge of Staff granted 67,053 days this year compared with 68,527 days last year. On the other hand, the amount of leave given by private practitioners rose from 22,050 days to 24,860 days. The average number of days sick leave per person was 9.11 compared with 9.3 in 1954.

An awareness of the medical facilities provided is shown by the increase of attendances both of the permanent staff and the daily rated employees. This is encouraging and the dispensary doctors are endeavouring to persuade the staff to come to them for advice and treatment, not only when they wish sick leave. This, of course, means more work for the doctors. The Medical Record Cards have proved a great assistance to the doctors in making the relevant details of each case available. The dispensary at Lorong Lalat continues to be overcrowded and it is apparent that an additional dispensary is required.

The points of special interest or importance in connection with the working of the Department during the year were as follows:—

TYPHOID

There were 100 cases of Typhoid in City residents reported during the year as against 120 in the previous year.

No carrier or other source of infection was traced which could account for any of the cases notified during the year. Five cases, a mother and four children occurred in one household, but no common source of infection could be traced. Two cases of bacteriologically proven typhoid carriers were admitted to the Middleton Hospital during the year. One was an Indian shopkeeper who had been found to excrete *B. typhus* on a routine stool examination. He was treated with penicillin and sulphonamides after which his stools became negative. The other was a Malay policeman who continued to be a carrier after admission as a case of typhoid fever. He was discharged still as a carrier and readmitted four times at monthly intervals and was still found to be a carrier in spite of treatment. Treatment by aureomycin was instituted at the end of this period and his stools are now apparently free from infection. We will continue to follow up this case.

DIPHTHERIA

The figures for City residents since 1953 are as follows:—

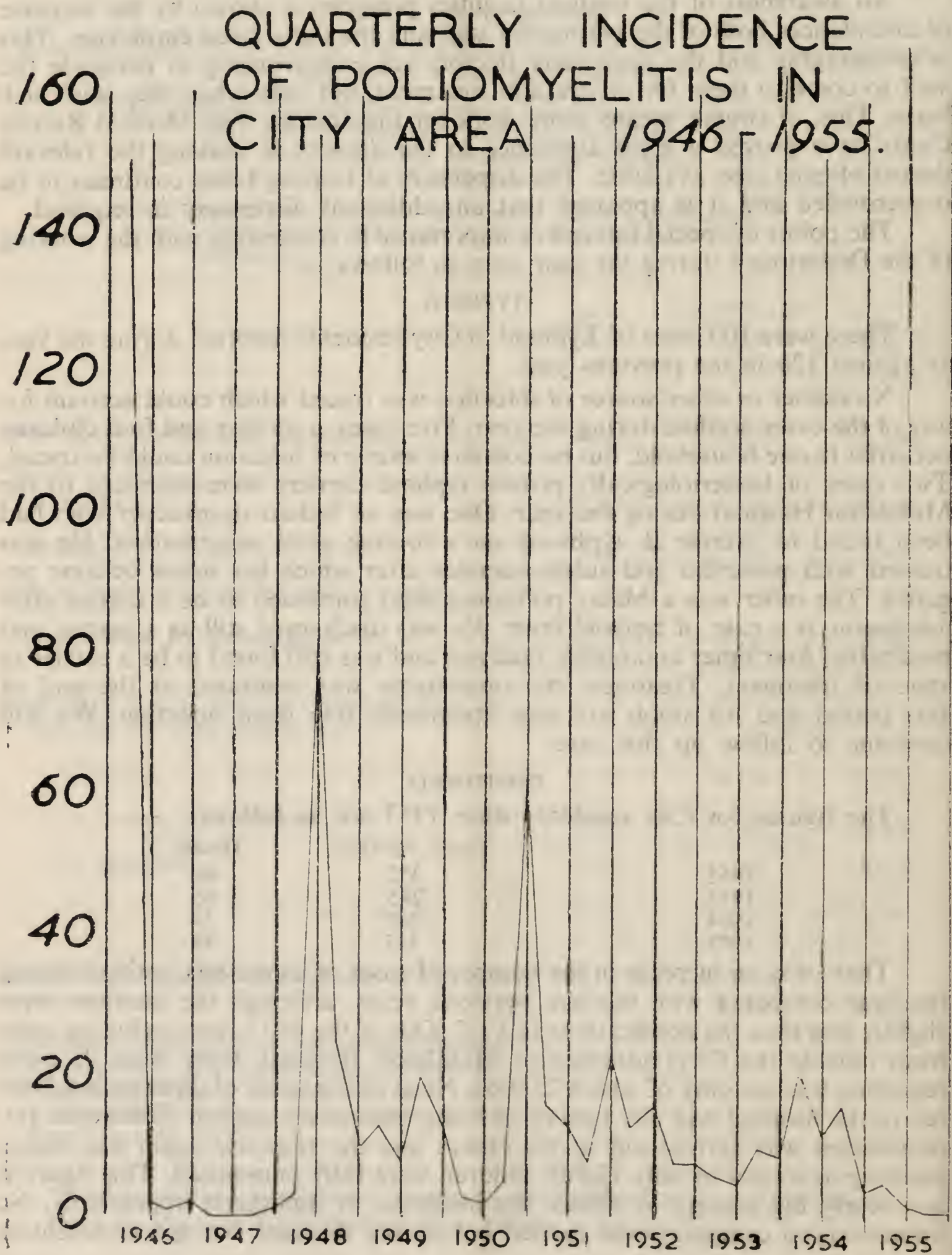
			<i>Cases Notified</i>	<i>Deaths</i>
1952	...	...	352	86
1953	...	...	245	56
1954	...	...	267	39
1955	...	...	347	44

There was an increase in the number of cases of diphtheria notified during the year compared with the two previous years, although the numbers were slightly less than the notifications in 1952. Out of the 460 cases (including cases from outside the City) admitted to Middleton Hospital, there were 91 cases requiring tracheotomy of which 25 died. None of the cases of diphtheria admitted to the hospital had any history of being immunised against diphtheria. Immunisation was carried out in the clinics and the response again was disappointing as a total of only 12,988 children were fully immunised. This figure is not nearly big enough to reduce the incidence of diphtheria appreciably. No immunisation campaign was carried out during the year but special attention

to diphtheria immunisation was made a feature during Health Week. The Maternity & Infant Welfare Health Visitors also advise all the mothers of infants whom they visit to have them immunised.

POLIOMYELITIS

There was a considerable drop in the number of poliomyelitis cases during the year, there being only 9 in the City Area. This of course is to be expected with poliomyelitis which tends to occur in two yearly cycles. The graph of the annual incidence for the past ten years which follows shows that there may be a rise again in 1956.



With the introduction of a vaccine which showed promise of giving an immunity against poliomyelitis, the question of the advisability of using this vaccine in Singapore had to be considered. However, in view of the endemicity of poliomyelitis in Singapore and the fact that it appears as "infantile paralysis" (which is the old name for the disease) we have to be very careful lest we should make things worse rather than better by embarking on a scheme of immunisation in Singapore where there is apparently a very high degree of immunity in the population. It was therefore decided that no steps should be taken for the time being to offer any immunisation against poliomyelitis in Singapore.

DEATH AND INFANTILE MORTALITY RATES

The Crude Death Rate per thousand of the population and the Infantile Mortality Rate per thousand live births for the year were the lowest ever recorded, being 9.56 and 51.60 respectively. As stated in my opening paragraph it has not been possible to produce a Death Rate corrected for transfers or based on a standardised population. The age and sex distribution of the population in Singapore is still abnormal. The main causes of death were bronchitis and pneumonia (1.12 per 1,000) tuberculosis (1.02 per 1,000) diarrhoea and enteritis (.64 per 1,000) and diseases of early infancy (1.13 per 1,000). These accounted for about 40 per cent of the total deaths. The death rate from tuberculosis which has been declining steadily for many years has not decreased in the last three years as is shown from the following table:—

<i>Tuberculosis Death Rate per 1,000 Living</i>									
1931	1936	1947	1949	1950	1951	1952	1953	1954	1955
3.089	2.868	2.350	2.125	1.894	1.717	1.478	1.08	1.00	1.02

MALARIA

The decrease in the incidence of malaria in Singapore continues and the death rate was .017 per thousand as compared with .025 per thousand in 1954. The death rate has dropped steadily since 1946 when it was .952 per thousand. The total cost of mosquito control during the year was \$985,971.52 which is approximately \$1.14 per head of population. The areas under permanent control were extended by the construction of 3,249 yards of concrete anti-malarial drains and the laying of 1,060 yards of subsoil pipe line. In addition to this, control by oiling was carried out in many areas. The amount of oil used during the year was 110,480 gallons as compared to 101,133 gallons in the previous year. Much of this was due to oiling in badly constructed estate drains and low lying areas where new roads were being constructed. It is unfortunate that the drains of many new roads are not sufficiently deep to provide drainage for the adjacent low lying areas, thus increasing the areas which we have to oil.

Further experiments with insecticides were continued. Four "Swing-fog" machines were purchased and proved satisfactory for dealing with adult mosquitoes and flies.

The filling in of the swamp at the Bendemeer Area by the City Cleansing Department continued as an anti-malarial measure and in addition, another low area near Kolam Ayer Lane was filled by them at our request also as an anti-malarial measure. As usual, collections of mosquito larvae were examined from a large number of breeding places. Five were found to be *A. sundanicus* and 28 *A. maculatus*, both malaria vectors. Although the incidence of malaria is lower than ever before, we must ever be on our guard to decrease and deal with breeding places of dangerous mosquitoes.

ANALYST'S DEPARTMENT

The intensive investigation of water treatment in a search for more economical methods was continued by the Analyst with considerable success. Pre-filtration liming at one plant enabled the filter to run three to four times as long as previously. Activated silica treatment was found to increase the out-put of the plant by 160 per cent. The value of the activated silica treatment lies not so much in the cheaper running costs but in the very considerable savings in capital expenditure for new treatment plant. Other methods of treatment were also investigated.

FOOD AND DRUGS

As a result of action taken last year following several cases of lead poisoning from Chinese drugs, these and similar drugs appear to have disappeared from the market. A few cases of illness occurred after taking foodstuffs prepared with Japanese Star Anise which contains a poisonous principle not present in the Chinese variety. The Japanese variety is no longer on sale, and steps have been taken to prevent its importation in future. 954 samples were examined on behalf of the Health Department as compared to 840 last year by the City Analyst.

INFANT WELFARE DEPARTMENT

The annual number of births continues to increase steadily. 122,463 visits to the homes of mothers and infants were paid by Sisters and Health Visitors during the year as against 125,546 during 1954. This was due to the Kandang Kerbau Maternity Hospital adopting the policy of discharging normal cases on the 3rd day, and selected cases 24 hours, after delivery. This enabled the number of cases confined in hospital to rise from 19,692 to 22,238. Correspondingly, fewer visits were paid by our District Sisters within 10 days of confinement, since they do not visit hospital cases.

19,729 new infants were seen at the Clinics in the course of the year as against 22,383 in the previous year. This is presumably due to the bus strikes which occurred during the year. The total number of attendance of infants at the Clinics, however, was slightly higher than the previous year being 141,748 as against 140,558 in 1954. The increase in the number of cases delivered in hospital reduced the number of confinements conducted by City Council Midwives. However, follow-ups in the homes of some of such cases were carried out by City Council Midwives, so that the actual amount of work carried out by them in these follow-ups, which involves care of the mothers as well as the bathing of babies, continued to be as great as ever.

The number of confinements without skilled attention continued to drop, being 971 as compared to 1,253 in the previous year. The number of cases of tetanus neonatorum dropped to four during the year which is the lowest figure on record.

During the year, two nurses went to Australia under the Colombo Plan to study Maternal & Child Health and returned before the end of the year, having obtained a higher qualification.

The new Clinic at Kim Keat Road was opened during the year and the temporary Clinic in Towner Road was closed down. The two midwives, however, who were housed in the flat above the Towner Road Clinic remained. It is intended to have four midwives in this area, two in Towner Road and two in the new Kim Keat Road Clinic. Two other new Clinics were under construction during the year and should be opened early in 1956, one at Aljunied Road and the other at Alexandra Road.

The Department took part in the Singapore Island Wide Health Week during November and Baby Shows were held in Prinsep Street Clinic and Joo Chiat Road Clinic. At these Baby Shows the opportunity was taken to disseminate health propaganda particularly with regard to immunisation against diphtheria.

The staff of the Maternity and Infant Welfare Department continue to carry out their work against a background of an ever increasing number of births. The staff was increased during the year by the employment of two Doctors, seven Health Visitors, two Midwives, Clerks, etc. and will be further increased next year. Even so, however, the Health Visitors will not be sufficient in numbers to spend as much time as should be spent with each mother.

HOUSING

The Master Plan prepared for Government by the Improvement Trust was submitted to Government during the year. This is one of the most important pieces of public health planning and it is to be hoped that Government will be able to carry out the recommendations fully. The overcrowding and insanitary conditions in many parts of the town can only be alleviated by new building on the scale recommended in the plan and it would be tragic if this cannot be carried out.

STAFF

The writer was on leave from the 4th of July, 1955 to the 17th of October, 1955 during which period Dr. J. Cameron acted as Health Officer, Dr. V. M. S. Thevathasan as Deputy Health Officer and Dr. Ling Ding Seng as Senior Assistant Health Officer. Mr. Nah Yong Moh went on leave prior to retirement on 15th November, 1955 after 37 years service.

Dr. Tan Cheng Im and Dr. Ivy Chew were appointed to the Maternity and Infant Welfare Department on 3rd August, 1955 and 4th March, 1955 respectively.

H. R. MORRISON, M.B., CH.B., D.P.H.,
City Health Officer.



Singapore Island Wide Health Week, November 1955, Champion Baby
Age Group 1-2 years



Infant Welfare Clinic at Aljunied Road

Table 1

NOTIFIABLE INFECTIOUS DISEASES

The number of cases notified in persons who were stated to be ordinarily resident within the City Area in 1955 and in the previous five years are shown in the table which follows:—

	1950	1951	1952	1953	1954	Average for 5 years	1955
Small-pox ..	..	..	..	..	..	..	..
Plague ..	..	..	..	..	..	..	..
Cholera ..	..	..	..	..	..	..	..
Typhoid Fever ..	129	85	136	89	120	111.8	100
Paratyphoid Fever ..	..	1	2	2	..	1.0	..
Diphtheria ..	224	392	352	245	267	296.0	347
Cerebro Spinal Fever ..	6	5	5	5	2	4.6	1
Typhus Fever*	13	15	16	9	15	13.6	4†
Scarlet Fever ..	..	..	..	1	..	2	..
Leprosy ..	180	142	95	124	120	132.2	120
Poliomyelitis ..	72	60	45	30	53	52.0	9
Anthrax ..	..	..	..	..	..	..	..
Puerperal Fever ..	82	69	78	43	52	64.8	60
Erysipelas ..	10	8	16	15	13	12.4	10
Chicken-pox ..	466	594	413	713	1,057	648.6	1,687
Tuberculosis ..	3,684	3,219	2,990	2,911	2,580	3,076.8	2,979
Total ..	4,866	4,590	4,148	4,187	4,279	4,414.0	5,317

* Under the heading of Typhus are included Tsutsugamushi or Scrup Typhus of Malaya (Mite Borne) and Flea Borne (Urban Type Tropical Typhus). Louse Borne Typhus has not been seen in Singapore.

† 2 Flea Borne and 2 Mite Borne.

Table 2

NOTIFIABLE INFECTIOUS DISEASES BY RACES FOR THE YEAR 1955

		Euro- peans	Eura- sians	Chinese	Malays	Indians	Others	Total
Typhoid Fever	..	— (—)	2 (—)	72 (19)	11 (11)	15 (1)	1 (—)	100 (31)
Diphtheria	..	— (—)	4 (—)	326 (103)	9 (4)	5 (5)	3 (—)	347 (112)
Chicken-pox	..	12 (6)	58 (16)	634 (108)	136 (50)	837 (159)	10 (2)	1,687 (341)
Puerperal Fever	..	— (—)	1 (—)	19 (2)	38 (1)	2 (—)	— (—)	60 (3)
Poliomyelitis	..	— (1)	1 (—)	7 (8)	— (—)	1 (2)	— (—)	9 (11)
Cerebro-spinal Fever	..	— (—)	— (—)	1 (—)	— (—)	— (—)	— (—)	1 (—)
Tuberculosis	..	1 (2)	13 (3)	2,597 (474)	190 (71)	175 (48)	3 (—)	2,979 (598)
Paratyphoid Fever	..	— (—)	— (—)	— (—)	— (1)	— (—)	— (—)	— (1)
Leprosy	..	— (—)	1 (—)	103 (47)	5 (3)	11 (9)	— (—)	120 (59)
Typhus Fever	..	— (—)	— (—)	1 (3)	— (—)	3 (1)	— (—)	4* (4)†
Erysipelas	..	— (—)	— (—)	4 (1)	5 (—)	1 (—)	— (—)	10 (1)
Small-pox	..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Cholera	..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Total	..	13 (9)	80 (19)	3,764 (765)	394 (141)	1,050 (225)	16 (2)	5,317 (1,161)

The figures not in brackets are of cases notified in persons ordinarily resident in the City Area.

The figures in brackets are Imported Cases and cases from Rural Board treated in Hospital or Institutions in the City Area but not ordinarily resident in the City Area.

* 2 Flea Borne and 2 Mite Borne.

† 2 Flea Borne and 2 Mite Borne.

NOTIFIABLE INFECTIOUS DISEASES BY MONTHS FOR THE YEAR 1955

(Figures in brackets are cases in non-residents)

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhoid Fever	11 (2)	14 (2)	15 (3)	10 (2)	7 (4)	3 (5)	5 (2)	5 (3)	5 (2)	8 (4)	5 (1)	12 (1)	100 (31)
Diphtheria ..	21 (6)	13 (8)	20 (10)	20 (5)	18 (8)	31 (9)	26 (11)	29 (16)	36 (7)	35 (6)	44 (15)	54 (11)	347 (112)
Chicken-pox	134 (19)	153 (31)	245 (48)	178 (48)	132 (21)	126 (19)	132 (27)	127 (31)	143 (19)	117 (26)	120 (23)	80 (29)	1,687 (341)
Puerperal Fever	6 (—)	2 (—)	6 (—)	4 (2)	10 (—)	7 (—)	4 (—)	4 (—)	5 (—)	5 (—)	2 (1)	5 (—)	60 (3)
Poliomyelitis	— (2)	3 (3)	2 (2)	— (2)	2 (2)	— (—)	1 (—)	— (—)	— (—)	1 (—)	— (—)	— (—)	9 (11)
Cerebro-Spinal Fever	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	1 (—)	— (—)	— (—)	— (—)	1 (—)
Tuberculosis	173 (40)	215 (28)	278 (39)	202 (40)	199 (44)	137 (40)	337 (72)	306 (61)	345 (74)	219 (51)	290 (61)	278 (48)	2,979 (598)
Paratyphoid Fever	— (1)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (1)
Leprosy ..	7 (3)	12 (4)	14 (8)	11 (3)	16 (2)	11 (7)	2 (5)	9 (8)	6 (6)	17 (4)	9 (7)	6 (2)	120 (59)
Typhus Fever	— (2)	— (—)	1 (—)	1 (—)	1 (1)	— (—)	— (—)	— (—)	— (1)	1 (—)	— (—)	— (1)	4* (4)†
Erysipelas ..	2 (—)	— (—)	— (—)	2 (—)	1 (1)	— (—)	1 (—)	— (—)	2 (—)	— (—)	— (—)	— (—)	10 (1)
Small-pox ..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Cholera ..	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)	— (—)
Total ..	354 (75)	412 (76)	581 (110)	428 (102)	386 (83)	315 (80)	508 (117)	480 (119)	543 (109)	403 (91)	471 (108)	436 (91)	5,317 (1,161)

* 2 Flea Borne and 2 Mite Borne.

† 2 Flea Borne and 2 Mite Borne.

Table 4

POLIOMYELITIS

CONFIRMED CASES NOTIFIED IN 1955 BY RACE, SEX AND AGE GROUPS

	Europeans			Eurasians			Chinese			Malays			Indians			Others			Total		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
0-5 years	..	..	..	..	..	..	8	4	12	..	..	..	1	2	3	..	..	..	9	6	15
5-10 "	..	..	..	1	..	1	2	1	3	..	..	..	..	..	..	..	..	..	3	1	4
10-15 "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15-20 "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
20-25 "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25-35 "	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	1
35-45 "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45-55 "	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	1	..	1	1	..	1	10	5	15	..	..	..	1	2	3	..	..	..	13	7	20

11 of the 20 confirmed cases of Poliomyelitis notified within the City Area were non-residents.

Table 5
POLIOMYELITIS CASES NOTIFIED AND CONFIRMED IN 1955
Under 5 years of age (Resident and non-resident)

	0-1 year		1-2 years		2-3 years		3-4 years		4-5 years		Total under 5 years	Total over 5 years
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.		
Europeans ..	..	..	..	..	..	..	..	..	..	..	..	1
Eurasians ..	..	..	..	..	..	..	..	..	..	..	..	1
Chinese ..	2	..	2	2	1	1	3	1	..	..	12	3
Malays ..	..	..	..	..	..	..	..	..	..	..	..	..
Indians ..	..	..	1	1	..	1	..	..	..	..	3	..
Others ..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	2	..	3	3	1	2	3	1	..	..	15	5

Table 6

PERCENTAGE OF PARALYTIC AND NON-PARALYTIC POLIOMYELITIS
CASES TREATED AT MIDDLETON HOSPITAL 1954 AND 1955

			1954	1955
Total cases treated at Middleton Hospital	..	..	70	19
Paralytic cases	..	..	70	19
Non-Paralytic cases	..	..	..	..
Paralytic cases	..	..	100%	100%

Table 7

NOTIFICATIONS OF TUBERCULOSIS (ALL TYPES) BY SEX AND AGE
GROUPS 1955—(IN CITY RESIDENTS ONLY)

Sex	AGE GROUPS							
	0-5 years	5-10 years	10-15 years	15-20 years	20-45 years	Over 45 years	Age not stated	Total
Males	66	12	17	73	1,167	851	4	2,190
Females	68	12	12	34	379	282	2	789
Total ..	134	24	29	107	1,546	1,133	6	2,979

Table 8

INSTITUTIONS, ETC., WHENCE TUBERCULOSIS NOTIFICATIONS
WERE RECEIVED

2,979 cases of Tuberculosis (all types) in City residents and 598 in non-residents that is 3,577 in all, were notified during the year. 30 of these were not ordinarily resident in the Colony.

Notified by	R.S.T.C.	T.T.S. Clinic	General Hospital	Total R.S.T.C. and Hospitals	Private Practi- tioners	Total
Number of cases notified	1,555	913	406	2,874	703	3,577

Table 1

GENERAL MEASURES TAKEN TO PREVENT IMPORTATION AND
SPREAD OF INFECTIOUS DISEASES

PASSENGERS UNDER SURVEILLANCE DURING THE YEAR 1955

Number of Passenger Undertakings received	..	24
Number of Persons under surveillance	..	39
Number of Persons seen	..	35
Number of Persons not seen and could not be traced	..	4

Table 2

HOUSES QUARANTINED, DISINFECTED, AND INFECTIOUS CASES
REMOVED TO INFECTIOUS HOSPITAL, TRAFALGAR
HOSPITAL

Houses quarantined	..	..	..	..
Houses Disinfected	..	..	..	1,008
Infectious cases removed to Infectious Hospital	..	..	..	1,022
Leper cases removed to Trafalgar Hospital	..	..	..	144

Table 3

VACCINATIONS BY CITY VACCINATORS, MEDICALMEN, PRIVATE
AND GOVERNMENT VACCINATORS
1955

	Successful	Modified	Failed	Not seen	Total
City Vaccinators	19,166	89	71	1,275	20,601
Medicalmen	12,024	5	33	..	12,062
Private and Government Vaccinators	548	..	..	..	548
Total ..	31,738	94	104	1,275	33,211

Table 4

VACCINATION BY RACES, 1955

Race	Under 6 months	6-12 months	1-5 years	Over 5 years	Total
Chinese	16,928	7,457	1,178	88	25,651
Malays	3,249	1,361	112	9	4,731
Indians	1,749	516	45	11	2,321
Eurasians	213	65	17	2	297
Europeans	39	14	4	..	57
Others	117	36	1	..	154
Total ..	22,295	9,449	1,357	110	33,211

Table 1

BIRTHS AND STILL BIRTHS

The following is the number of births for each month of the year, the 1954 figures being also shown:—

Month		1954	1955	Month		1954	1955
January		3,246	3,231	July		3,269	3,289
February		3,045	3,118	August		3,454	3,761
March		3,511	3,422	September		3,485	3,535
April		3,334	3,454	October		3,446	3,690
May		3,523	3,572	November		3,704	3,801
June		3,328	3,673	December		3,590	3,544
Total ..		19,987	20,470	Total ..		20,948	21,620

Table 2

The Births registered by races were:—

	1954			1955		
	Males	Females	Total	Males	Females	Total
Europeans	149	156	305	154	175	329
Eurasians	139	157	296	175	152	327
Chinese	16,680	15,337	32,018*	16,856	15,972	32,830†
Malays	2,317	2,149	4,466	2,340	2,224	4,564
Indians	1,757	1,711	3,468	1,884	1,766	3,650
Others	185	197	382	196	194	390
Total ..	21,227	19,707	40,935	21,605	20,483	42,090

* Include 1 Chinese of Unknown Sex.

† Include 2 Chinese of Unknown Sex.

Table 3

The birth rate for each race in 1955 and the corresponding rate for 1954 are shown in the table which follows:—

	1954	1955
Europeans	27.61	28.77
Eurasians	30.70	33.04
Chinese	49.52	48.91
Malays	50.40	50.03
Indians	53.23	53.89
Others	39.89	39.09
All Races Combined	49.28	48.86

Table 4

The table which follows, shows the number of live-births by race and sex that occurred at the Government Maternity Hospital in 1955 and also the percentage of the total registered live-births of each race born at this hospital:—

	1955			Percentage of total births registered by race born at the Govt. Hospital	
	Males	Females	Both Sexes	1955	1954
Chinese	9,490	8,860	18,350	55.89	50.85
Indians	1,303	1,170	2,473	67.75	66.29
Malays	285	263	548	12.01	7.79
Europeans	87	112	199	60.49	51.80
Eurasians	106	90	196	59.94	65.88
Others	24	28	52	13.33	9.42
Total All Races ..	11,295	10,523	21,818	51.84	47.19

Table 5

The percentage of the total births registered by races in the census years, 1911, 1921, 1931, 1947 and in 1948–1955 is shown in the table which follows:—

Year	Total Births	Chinese	Malays	Indians	Other Races	Percentage of Total Births			
						Chinese	Malays	Indians	Other Races
1911 ..	5,560	3,750	1,051	406	353	67.4	18.8	7.3	7.52
1921 ..	10,237	7,789	1,270	640	538	76.0	12.4	6.2	5.26
1931 ..	16,488	13,229	1,758	917	584	80.23	10.66	5.56	3.54
1936 ..	20,878	17,093	1,842	1,314	629	81.87	8.82	6.29	3.01
1947 ..	30,548	24,247	3,233	2,323	745	79.3	10.5	7.6	2.44
1948 ..	32,074	25,996	3,004	2,299	775	81.1	9.4	7.2	2.44
1949 ..	33,101	26,602	3,294	2,461	744	80.4	10.0	7.4	2.2
1950 ..	33,424	26,700	3,408	2,635	681	79.88	10.20	7.88	2.04
1951 ..	34,776	27,686	3,542	2,819	729	79.61	10.19	8.11	2.10
1952 ..	36,529	28,853	3,842	3,097	737	78.99	10.52	8.48	2.02
1953 ..	39,322	31,076	4,062	3,387	798	79.03	10.33	8.61	2.03
1954 ..	40,935	32,018	4,466	3,468	983	78.22	10.91	8.47	2.40
1955 ..	42,090	32,830	4,564	3,650	1,046	78.00	10.84	8.67	2.49

Table 6

The Still-Births registered in 1955 and 1954 are shown in the table which follows:—

	1955			1954		
	Males	Females	Total	Males	Females	Total
Europeans	..	6	6	3	2	5
Eurasians	2	6	8	3	..	3
Chinese	239	227	468*	368	309	677
Malays	71	54	125	83	65	148
Indians	61	54	115	78	55	133
Others	7	2	11†	7	3	10
Total ..	380	349	733	542	434	976

* Includes 2 Chinese Sex Unknown.

† Includes 2 Race and Sex Unknown.

Table 1

DEATHS

The following return shows the number of deaths and the death rate for each month of the year:—

Month	No. of Deaths	Death Rate	Month	No. of Deaths	Death Rate
January	745	10.19	July	688	9.41
February	660	9.65	August	694	9.49
March	772	10.56	September	657	9.28
April	637	9.00	October	613	8.38
May	781	10.68	November	606	8.56
June	713	10.08	December	670	9.16

Table 2

The chief causes of death in 1954 and 1955 and the rate per 1,000 living are set out in the table which follows:—

	1954		1955	
	Cases	Rate per Mille	Cases	Rate per Mille
Bronchitis and Pneumonia	1,225	1.47	961	1.12
Tuberculosis	833	1.00	879	1.02
Diarrhoea and Enteritis	773	.93	553	.64
Diseases of early Infancy	883	1.06	970	1.13
Infantile Convulsions (up to 5 years) ..	198	.24	194	.23
Violence	478	.58	501	.58
Heart Disease	546	.66	637	.74
Old Age	304	.37	462	.54
Cancer	521	.63	560	.65
Nephritis	250	.30	230	.27
Beri-Beri	73	.09	85	.10
Diphtheria	39	.05	44	.05
Malaria	22	.03	14	.02
Dysenteries	44	.05	25	.03
Typhoid	15	.02	11	.01

Table 3
MORTALITY ACCORDING TO RACES AND AGES, 1955

Age Group	Europeans		Eurasians		Chinese		Malaysians		Indians and Pakistanis		Others		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 day	..	..	..	1	115	86	29	33	11	8	3	2	158	130
1 day and under 2 days	..	..	..	..	68	40	9	6	1	5	1	3	80	54
2 days and under 3 days	..	..	1	1	30	25	5	2	3	2	..	..	39	30
3 days and under 4 days	..	..	1	..	24	22	7	5	3	4	..	..	35	31
4 days and under 5 days	..	..	1	..	14	12	7	8	7	3	..	..	29	23
5 days and under 6 days	..	..	1	..	17	12	4	3	2	..	..	..	24	15
6 days and under 7 days	..	..	..	..	15	14	3	3	..	1	1	..	19	18
7 days and under 14 days	..	..	..	1	86	70	13	6	10	3	..	2	109	82
14 days and under 21 days	..	..	..	..	62	51	17	5	2	8	..	1	81	65
21 days and under 28 days	..	..	1	..	17	23	8	10	4	1	..	..	30	34
Neo-Natal Deaths	1	..	5	3	448	355	102	81	43	35	5	8	604	482
28 days and under 2 months	..	..	..	..	61	58	45	22	11	9	..	..	117	89
2 months and under 3 months	..	..	1	..	53	31	29	18	8	9	..	..	91	58
3 months and under 4 months	1	..	..	..	47	31	24	9	7	5	..	..	79	45
4 months and under 5 months	..	..	..	..	38	36	22	11	1	3	..	..	61	50
5 months and under 6 months	..	..	..	..	33	28	14	8	3	3	..	..	50	39
6 months and under 7 months	..	1	1	..	18	20	11	14	5	1	1	..	36	36
7 months and under 8 months	1	..	..	1	21	26	10	7	6	3	2	..	40	37
8 months and under 9 months	..	..	..	..	28	34	12	9	4	6	..	..	44	49
9 months and under 10 months	..	..	..	..	15	29	7	11	3	3	..	..	25	43
10 months and under 11 months	..	..	..	..	20	17	3	7	..	1	..	1	23	26
11 months and under 1 year	..	..	1	..	12	18	5	7	4	1	..	..	22	26
Infant Mortality*	3	1	8	4	794	683	284	204	95	79	8	9	1,192	980

* Includes neo-natal deaths.

Deaths of unknown sex are included above under 'Male'.

Table 3—continued
MORTALITY ACCORDING TO RACES AND AGES, 1955—continued

Age Group	Europeans		Eurasians		Chinese		Malaysians		Indians and Pakistanis		Others		Total	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Under 1 year	3	1	8	4	794	683	284	204	95	79	8	9	1,192	980
1 year and under 2 years	..	..	..	1	127	114	31	32	12	9	1	..	171	156
2 years and under 3 years	..	..	..	1	81	86	17	11	4	2	1	..	103	100
3 years and under 4 years	..	..	..	..	56	41	7	4	1	5	..	..	64	50
4 years and under 5 years	..	..	1	..	35	35	5	4	1	2	..	..	42	41
5—9 years	1	..	..	..	74	63	19	7	8	9	..	1	102	80
10—14 years	..	..	..	..	34	20	8	4	4	..	1	..	47	24
15—19 years	..	..	2	..	59	46	13	9	3	5	1	..	78	60
20—24 years	..	..	1	..	63	46	6	10	10	6	1	2	83	65
25—29 years	2	2	2	1	74	42	13	21	19	1	..	1	113	68
30—34 years	5	..	..	..	76	60	21	12	24	8	1	2	124	82
35—39 years	2	..	3	..	126	97	14	19	25	7	1	..	170	123
40—44 years	1	..	1	..	201	111	17	19	38	5	1	..	260	135
45—49 years	1	..	3	..	252	129	19	12	45	10	3	1	323	152
50—54 years	5	1	1	..	335	140	23	29	52	8	4	2	420	180
55—59 years	2	1	6	6	346	166	30	26	31	8	5	2	420	209
60—64 years	5	2	3	4	320	185	33	13	28	9	3	1	392	214
65—69 years	3	1	6	1	243	180	15	21	22	7	1	3	290	213
70—74 years	2	..	2	3	163	176	15	11	10	6	2	..	194	196
75—79 years	..	..	..	1	86	126	14	9	3	8	2	..	105	144
80—84 years	..	..	1	3	37	90	4	12	2	1	..	1	44	107
85 years and over	..	..	..	2	15	61	10	15	1	1	..	1	26	80
Unknown ..	..	..	..	..	4	2	..	..	..	..	5	3	9	5
Total ..	34	8	40	28	3,601	2,699	618	504	438	196	41	29	4,772	3,464

Four deaths of unknown sex are included above under 'Male'.

Table 4
INFANTILE MORTALITY BY RACES, 1946-1955

Year	Europeans	Eurasians	Chinese	Malays	Indians	Others	All Races
1946 ..	28.2	65.5	91.6	140.4	94.9	126.6	96.39
1947 ..	52.0	84.3	93.4	144.1	81.8	109.9	97.6
1948 ..	28.0	45.3	83.9	163.1	80.0	67.0	90.10
1949 ..	19.3	38.7	74.3	122.7	82.1	109.5	79.18
1950 ..	18.9	53.0	87.4	145.8	71.3	65.9	91.22
1951 ..	21.7	41.1	73.7	130.4	68.5	158.2	78.79
1952 ..	35.7	45.6	71.0	120.8	64.9	102.6	75.34
1953 ..	21.7	64.6	66.7	116.7	63.8	127.3	71.54
1954 ..	29.5	37.2	52.5	110.4	64.3	68.1	59.66
1955 ..	12.2	36.7	45.0	106.9	47.7	43.6	51.60

Table 5

The main causes of death in infants and the rate per 1,000 live births for each disease in 1955 and 1954 are set in the table which follows:—

	1954		1955	
	Cases	Rate per Mille	Cases	Rate per Mille
Convulsions	179	4.25	147	3.59
Bronchitis and Pneumonia	502	11.93	477	11.65
Diseases of early Infancy	973	23.12	881	21.52
Diarrhoea and Enteritis	362	8.60	509	12.43
Tetanus	16	.38	16	.39
Beri-Beri	30	.71	8	.20
Congenital Syphilis	7	.17	15	.37
Total ..	2,069	49.16	2,053	50.15

Table 6
1955 INFANTILE MORTALITY ACCORDING TO RACE, SEX AND AGE GROUPS

Race	Sex	AGE GROUP								
		0-1 Day	1-7 Days	1-4 Weeks	0-4 Weeks	4 Weeks- 3 Months	3-6 Months	6-9 Months	9-12 Months	0-12 Months
Europeans	{ M. F.		1 ..		1 ..		1 ..	1 1		3 1
Eurasians	{ M. F.	.. 1	4 1	1 1	5 3	1 ..		1 1	1 ..	8 4
Chinese	{ M. F.	115 86	168 125	165 144	448 355	114 89	118 95	67 80	47 64	794 683
Malays	{ M. F.	29 33	35 27	38 21	102 81	74 40	60 28	33 30	15 25	284 204
Indians	{ M. F.	11 8	16 15	16 12	43 35	19 18	11 11	15 10	7 5	95 79
Others	{ M. F.	3 2	2 3	.. 3	5 8			3 ..	.. 1	8 9
Total Races	{ M. F.	158 130	226 171	220 181	604 482	208 147	190 134	120 122	70 95	1,192 980
Combined Total		288	397	401	1,086	355	324	242	165	2,172

Table 7

NEO-NATAL RATES BY RACE AND SEX (1953-1955)

	1955			1954			1953		
	Males	Females	Both Sexes	Males	Females	Both Sexes	Males	Females	Both Sexes
Europeans	6.49	..	3.04	26.85	12.82	19.67	7.30	21.58	14.49
Eurasians	28.57	52.63	39.76	14.39	19.11	16.89	51.81	36.81	44.94
Chinese	26.58	22.23	24.46	31.24	26.28	28.86	39.55	34.26	37.01
Malays	43.59	36.42	40.10	41.43	29.78	35.83	39.56	34.11	36.93
Indians	22.82	19.82	21.37	44.39	33.90	39.22	35.30	31.34	33.36
Others	25.51	41.24	33.33	27.03	35.53	31.41	66.67	133.33	96.97
Total	27.96	23.53	25.80	33.26	27.25	30.39	39.21	34.32	36.85

Table 8

The chief causes of the neo-natal deaths in infants in 1955 and 1954 are shown in the table which follows:—

	1955		1954	
	No. of Cases	% Total Neo-natal deaths	No. of Cases	% Total Neo-natal deaths
1. Ill-defined diseases peculiar to early infancy and Immaturity	514	47.33	614	49.36
2. Infantile Convulsions	45	4.14	22	1.77
3. Atelectasis	97	8.93	131	10.53
4. Diarrhoea and Enteritis	177	16.30	115	9.24
5. Tetanus	15	1.38	16	1.29
6. Bronchitis and Pneumonia	4	.37	97	7.80
7. Congenital Malformations	54	4.97	67	5.39
8. Icterus Neonatorum	96	8.84	49	4.00
9. Injury at Birth	37	3.41	51	4.10
10. Beri-Beri	2	.18	4	.32
11. Undefined or unstated causes	13	1.20	10	.82
12. Congenital Syphilis	3	.28	8	.64
13. Diseases of Umbilicus	..	..	3	.24
14. Septicaemia and Pyaemia	..	..	..	..
15. Other diseases	29	2.67	57	3.94
Total ..	1,086		1,244	

Table 9

CERTIFICATION OF DEATHS, 1955

By whom certified	Euro-peans	Eura-sians	Chinese	Malays	Indians	Others	Total
Medical Practitioners ..	26	55	4,376	450	372	38	5,317
City Council Inspecting Officers	..	6	1,098	599	120	7	1,830
Coroner	16	7	828	73	142	23	1,089
Total ..	42	68	6,302	1,122	634	68	8,236

Table 10

In the table which follows are shown the percentage number of deaths the causes of which were certified by Medical Practitioners, Inspecting Registrars and the Coroner, in the years 1946-1955:—

		1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Medical Practitioners ..		57.16	58.48	60.22	59.81	58.89	59.82	63.30	66.63	65.25	64.56
Inspecting Registrars ..		33.82	33.14	31.92	31.85	31.55	30.10	25.90	22.99	22.45	22.22
Coroner ..		9.02	8.39	7.86	8.34	9.56	10.08	10.80	10.38	12.30	13.22

Table 1

FOOD AND MARKETS

	1954	1955
	Weight in katties	Weight in katties
A. Quantity of fresh fish landed and auctioned at the markets ...	9,528,519	9,026,721
B. Quantities of unsound foodstuffs at markets which were seized, sur- rendered and destroyed during the year:—		
Fish, Meat, Vegetables, Fruits and Miscellaneous ...	245,016	267,514
Eggs ...	13,949	17,275
Head of Poultry ...	5,581	5,228
C. Samples taken for chemical analysis during the year = 853.		

Decayed and unsound foodstuffs at Godown in the Harbour Board and elsewhere and shops in the City which were seized or surrendered and destroyed during the year included 15,857 tins, 136 bottles, 16 packages, 34 tons. 17 cwts. 3 qrs. 8½ lb. of assorted provisions. 91 bottles and 164 phials of drugs were also surrendered and destroyed.

Table 2

D. Licences Issued and Fees Collected.

Year	LICENCES ISSUED			Total Fees
	Total	Food By-laws	Offensive Trades	
1954 ...	2,196	1,779	417	\$ c. 80,168 00 16,359 00 96,527 00
1955 ...	2,197	1,769	428	80,972 00 17,694 58 98,666 58

Table 3

THE NUMBER OF ANIMALS SLAUGHTERED AT THE ABATTOIRS IN
1954 AND 1955

	1954	1955
Pigs ...	318,575	355,209
Sheep ...	60,868	63,868
Goats ...	2,237	1,776
Oxen ...	4,389	4,233
Buffaloes ...	1,825	2,482
Horses ...	13	4
Total ...	387,907	427,572

NUMBER OF PIGS FROM VARIOUS SOURCES SLAUGHTERED AT ABATTOIR AND APPROXIMATE WEIGHT OF PORK PRODUCED IN 1954 AND 1955

	1954		1955	
	Number of pigs slaughtered	Approximate weight katties	Number of pigs slaughtered	Approximate weight katties
Local pigs—Average carcase weight, 55 katties	287,263	15,799,465	310,088	15,504,400
Federation pigs—Average carcase weight, 60 katties	29,245	1,754,700	42,709	2,562,540
Bali pigs—Average carcase weight, 90 katties	2,067	186,030	2,412	217,080
Total ..	318,575	17,740,195	355,209	18,284,020

CARCASES TOTALLY CONDEMNED AT THE ABATTOIRS 1955

<i>Swine</i>	<i>Sheep</i>	<i>Oxen</i>	<i>Buffaloes</i>	<i>Goats</i>	<i>Total Condemned</i>
25	57	40	16	..	138

REVENUE

The total revenue excluding rent received for use of chilling rooms from the Abattoirs in 1955 was \$835,522.70. This is nearly \$81,677.95 more than the previous year's revenue which was \$753,844.75.

ANTI-MOSQUITO DEPARTMENT

I HAVE the honour to submit the report on the work of the Anti-Mosquito Department for the year 1955.

2. *Incidence of Malaria*.—59 cases of malaria were reported from hospitals and dispensaries during the year. Of these 49 gave addresses within the City and were fully investigated. With the exception of 4 who gave wrong addresses, they were found to be imported cases or relapses.

3. *Trapping of adult mosquitoes*.—The three mosquito traps set up in various parts of the City for the collection and subsequent identification continued to provide a valuable check on our anti-malarial control measures. For details see Appendix "A".

4. *Larvae Searching*.—7,046 collections of mosquito larvae were brought by the field staff to the departmental laboratory for identification. As in the past a close watch for the breeding of the malaria vector, *A. sundaicus*, was kept on all boats brought into the Singapore and Kallang Rivers for repairs. No such breeding was found in any of the boats.

At Appendix "B" is an analysis of 1,000 consecutive larval collections during the year showing the common breeding places within the City.

At Appendix "C" is shown the total number of collections in which vector species were found together with their breeding places.

5. *Permanent Anti-Malarial Works*.—The areas under permanent control were extended by the construction of 3,249 yards of concrete anti-malarial drains and the laying of 1,060 yards of subsoil pipe line. In addition to these, 2,921 yards of worn-out anti-malarial drains were reconstructed with new materials. In anticipation of the taking over of a portion of the concrete anti-malarial drain at Burn Road by the City Engineer's Department as a roadside drain, our Department used inverts of the type used by the City Engineer's Department in this particular portion.

Details of permanent anti-malarial works are listed at Appendix "D".

Minor repairs to existing permanent anti-malarial works were carried out as and when required and details of these are given in Appendix "E".

6. *Prawn Ponds in Kallang Basin*.—Weekly inspections continued to be carried out as in past years to ensure that sluice gates were opened and algae growths on ponds were removed. No breeding of *A. sundaicus* was found in this area during the year.

7. *Kampong Sanitation*.—As in the past year the existing Kampong Sanitation drains were regularly maintained by the Kampong Sanitation Labour Force. A small number of drains in connection with the drainage of standpipes were constructed. A scheme to deal with the drainage of the Kampong at Whitley Park which was commenced towards the end of last year was completed.

For details of Kampong Sanitation Works please see Appendix "F".

8. *Maintenance*.—Maintenance works carried out by ten gangs and 4 machine units was continued on the basis of having anti-malarial drains maintained approximately once in 35 days. Five patrol gangs continued to work around the General Hospital, Tan Tock Seng Hospital, Kallang Basin, Tanjong Rhu, Siglap, Katong and Geylang areas mainly to control the breeding of *A. sundaicus*.

169,690 yards of concrete drains and 22,687 yards of earth drains were regularly maintained. 13,881 baskets of tins and other water bearing receptacles were collected and disposed of.

Since March for the first time in the history of the Department, 31,888 yards of concrete anti-malarial drains were placed under contract labour for daily cleansing at a cost of \$8,750 per month. Due to the rapid expansion and development of the relatively country-like areas within the City, these drains now carry mainly sullage water. Supervision of this contract labour is carried out by this Department. The drains were satisfactorily cleansed.

9. *Larvicidal Works.*—(i) *Anti-Malarial Mixture.*—110,480 gallons of this containing 1 per cent DDT were expended compared with 101,133 gallons last year. The excess used this year was due to the demand for the oiling of badly constructed drains in newly built up areas such as Sennett Estate which lies between Serangoon Road and MacPherson Road, and the oiling of vast water-logged areas at Guillemard Road, Paya Lebar Road and MacPherson Road. These water-logged areas resulted from the development carried out by the City Engineers. When the Engineers widened the roads and constructed the roadside drains according to new levels which were higher than the adjacent lands, the drainage of these adjacent low-lying areas was left without proper outlets.

(ii) *Shell Malariol Emulsion.*—This larvicide was used for the control of breeding in places where an oily larvicide was undesirable. 135 gallons of the larvicide were expended.

(iii) *Malariol H.S.*—As in the previous year 258 gallons of this were used to control mosquito breeding in fish and vegetable ponds in the Sungei Whampoe and the Kallang Basin areas.

(iv) *Gammexane.*—259 $\frac{1}{4}$ lbs. of this were used in the temporary control of nuisance mosquito breeding in septic tanks, which continued to be responsible for a number of mosquito complaints received.

(v) *Kerosene with DDT.*—5 gallons with 5 per cent DDT and 336 gallons with 10 per cent DDT were used mainly for barrier spraying and occasionally as an anti-fly measure.

(vi) *Benzine with 10 per cent DDT.*—929 $\frac{1}{2}$ gallons were used to control mosquito breeding along the margins of reservoirs.

(vii) *Dioldrex 15.*—26 $\frac{3}{4}$ gallons of this were used. Experiments were carried out in two specified areas (Sennett Estate and Langsat Road Area) to determine the usefulness of this product as a larvicide. It is interesting to note from these experiments that *Culex fatigans* after continued exposure at regular intervals of 6 days developed a resistance to it within a period of approximately 5 months. There was no opportunity to test its usefulness as an anopheline larvicide.

The total cost of larvicides (including labour) was \$164,776.67; of this sum \$8,603.03 was recovered from owners of properties and building contractors.

10. *Swing-fog Machines.*—Towards the end of the year, 4 Swing-fog machines which are capable of dispersing insecticides in either aqueous or oily suspensions were bought. These machines were used on several occasions to disperse Dioldrex 15 to destroy adult nuisance mosquitoes and flies. The results were satisfactory. BHC, Pyrethrin and DDT mixed in various proportions in kerosene have been worked out in the laboratory to enable experiments to be carried out in 1956.

11. *Filling in of low-lying areas.*—The filling of the extensive swamp at the Bendemeer Area by controlled tipping by the City Cleansing Department was continued.

Another low-lying area also highly noted for the breeding of *A. sundaicus* at Kolam Ayer Lane was filled in by controlled tipping by the City Cleansing Department at our request.

12. *Notices.*—68 notices under the Destruction of Mosquitoes Ordinance were served during the year. As in the past year the majority of these were served on building contractors.

13. *Anti-fly Measures.*—In addition to the normal routine oiling, our oilers helped to carry out anti-fly measures on several occasions.

14. *Training.*—Probationary Sanitary Inspectors Choo Chiang Cheng and Goon Peng Yam completed a training course in anti-malarial measures and in the bionomics and toxonomies of Malayan mosquitoes in the Department whilst Probationary Sanitary Inspector Lim Ah Guan commenced similar training towards the end of the year.

15. *Layout Plans.*—333 layout plans were referred to this Department by the Planning Officer, Singapore Improvement Trust, for comments regarding drainage. The sites were inspected and comments given.

16.—*Staff.*—(i) Mr. Mohamed Sedek, a Junior Overseer retired after 36 years of faithful service, and Mr. S. Thangiah was appointed to fill the vacancy in August.

(ii) Messrs. Lim Teo Hock and S. Selvarajoo were promoted to the posts of overseers on 1st December, 1955.

(iii) Mr. S. Kader worked as a clerk for 3 months and left the service. This vacancy is expected to be filled early in 1956.

17. *Labour*

Authorised Labour Force ...	...	607
Average monthly strength in payroll ...	...	574
Percentage of shortage ...	...	5%
Number of working days for 1955 ...	...	313
Number of man days taken as sick leave ...	...	5,100
Number of man days taken as annual leave ...	...	3,444
Number of man days taken as public holidays ...	...	6,314
Number of man days lost through Strike ...	...	8,036

428 different labourers took sick leave on at least one occasion. This means that 74.5 per cent of the total labour force went sick at least once during the year. The average number of days taken as sick leave per man during the year is 8.9. For 16 days, commencing on 17th August, the labour force went on strike. During this period, essential larvicidal works and cleansing of drains were carried out by a skeleton casual labour force under the supervision of the monthly paid staff of the department.

18. Mr. Boonchoo Nupothi, a Sanitary Inspector attached to the Ministry of Public Health, Bangkok, who was on a 6 months' World Health Organisation Fellowship was given a month's observation in the Anti-Mosquito Department in July.

19. A close liaison was maintained with the Rural Health Authorities and Army Departments concerned with the control of mosquito breeding.

SUMMARY OF WORKS AND COSTS FOR 1955

Particulars	Labour	MATERIALS			Total
		Mason	Machine	Larvicide	
	\$ c.	\$ c.	\$ c.	\$ c.	\$ c.
Major Works including $\frac{1}{3}$ cost of Store Labour ..	138,273 21	42,246 39	..	..	180,519 60
Patrol Works including Tidal Gate Labourers ..	117,436 41	..	..	..	117,436 41
MAINTENANCE					
1. Grass cutting, cleansing drains including hire and benzine ..	311,956 27	..	4,344 25	..	316,300 52
2. Larvicidal works, trappers, oiling checkers and $\frac{1}{3}$ cost of Store Labour ..	90,340 32	..	..	70,156 74	160,497 06
3. Repairs including $\frac{1}{3}$ cost of Store Labour ..	59,843 90	28,762 58	..	..	88,606 48
4. A. M. Works during Strike period (17th August to 1st September) ..	7,760 00	..	..	4,279 61	12,039 61
5. Cleansing of drains by contract labour (March to December) ..	87,500 00	..	..	..	87,500 00
	813,110 11	71,008 97	4,344 25	74,436 35	962,899 68
Less Kampong Sanitation labour doing A. M. Works	4,716 30	..	..	..	4,716 30
	808,393 81	71,008 97	4,344 25	74,436 35	958,183 38
Cost of Haulage (including Strike period) ..	..	..	..	..	27,788 14
Grand Total ..					985,971 52

LING DING SENG, M.B., B.S., D.P.H.,
*Assistant Health Officer,
for Deputy Health Officer.*

APPENDIX A

Mosquito traps were set in the following areas with the results indicated below:—

Locality	No. of Nights	<i>A. macu- latus</i>	<i>A. sun- daicus</i>	Other <i>Ano- pheles</i>	Others	Total
Kampong Martin	1	..	..	13	24	37
Dunman Road	135	..	..	1	2,762	2,763
Aljunied Road	45	..	..	31	1,200	1,231
Tanjong Rhu Road	130	..	..	17	2,646	2,663
Bendemeer area	149	..	..	78	4,516	4,594
Kim Keat Road	137	..	2	14	2,417	2,433
Kampong Potong Pasir	84	..	..	12	848	860
Kolam Ayer Lane	130	..	..	..	3,636	3,636
St. Georges Road	21	..	..	11	565	576
Lorong 3, Geylang Road	23	..	..	3	374	377
Lorong 17, Geylang Road	9	..	..	..	250	250
	..	..	2	180	19,238	19,420

176 Anopheline female mosquitoes were trapped: of which 75 were dissected and none was found infected. In addition 19,238 adult mosquitoes were identified.

Sgd. P. V. SAMUEL,
Laboratory Assistant (A.M.D.)

11th January, 1956.

1,000 consecutive collections from common breeding places:—

Roadside concrete drains	...	177
Sullage concrete drains	...	120
Concrete drains	...	41
Roadside earth drains	...	25
Sullage earth drain	...	1
Earth drains	...	62
Side pockets of stream	...	1
Canal edges	...	6
Sewage excavations	...	8
Stagnant pools	...	145
Grassy pools	...	32
Seepage pools	...	2
Dung pits	...	2
New building excavations	...	53
Lorry tracks	...	3
Ponds	...	47
Vegetable ponds	...	32
Fish ponds	...	25
Tidal ponds	...	4
Prawn ponds	...	6
Pig ponds	...	2
Concrete pond	...	1
Edges of reservoirs	...	5
Seepages	...	6
Earth wells	...	31
Concrete wells	...	6
Concrete holes	...	4
Septic tanks	...	7
Concrete tanks	...	11
Concrete tubs	...	3
Boats	...	17
Disused drums	...	21
Disused tins	...	48
Disused jars	...	15
Disused buckets	...	2
Steel tank	...	1
Fish tanks	...	3
Sewage manhole	...	1
Disused tyres	...	18
Flower pots	...	2
W.C. pans	...	3
Tree hole	...	1
Total	...	1,000

Sgd. P. V. SAMUEL,
Laboratory Assistant (A.M.D.)

11th January, 1956.

APPENDIX C

7,046 collections of mosquito larvae were brought to the laboratory for identification. Five of these contained larvae of *Anophele sundaicus*, twenty-eight contained larvae of *Anophele maculatus* and two contained larvae of *Anophele letifer*. The other 7,011 collections did not contain larvae of malaria vectors.

The type of breeding places in which the larvae of malaria vectors were found were as follows:—

<i>A. sundaicus</i>			<i>A. maculatus</i>		
Tidal ponds	...	2	Earth wells	...	9
Prawn pond	...	1	Roadside concrete drains		4
Fish ponds	...	2	Excavated pit at toe of hill	...	1
	—	5	Stagnant pool	...	1
	—		Concrete drain	...	1
			Seepages (at Gunong Pulai)		3
			Drinking water pools (at Gunong Pulai)	...	5
			Swimming pool (at Gunong Pulai)	...	1
			Side pockets of earth drain (at Gunong Pulai)	...	1
			Blocked drain (at Gunong Pulai)	...	1
			Disused bucket in squatters area (at Gunong Pulai)		1
					28

<i>A. letifer</i>		
Pools in swamp	...	2

Sgd. P. V. SAMUEL,
Laboratory Assistant (A.M.D.)

11th January, 1956.

PERMANENT ANTI-MALARIAL WORKS CARRIED OUT DURING 1955

Anti-Malarial Area	MATERIALS USED											Labour Cost	Material Cost	Remarks
	Inverts					Slabs			Subsoil Pipes					
	21"	18"	15"	12"	9"	18"	15"	12"	8"	6"	4"			
32. Radin Mas ..	..	..	555	250	150	510	185	..	125	300	..	\$ c. 2,206 30	The construction of concrete drains in the subsidiary ravine off Ravine No. 1, were carried out. Work completed.	
88. Jewish Cemetery	..	..	160	250	100	580	..	200	..	100	..	4,674 51	Construction of the subsidiary drain is in progress.	
94. Bushey Park ..	3	109	15	..	..	232	..	..	..	..	..	555 45	A concrete drain was constructed to replace the existing earth ditch. Work completed.	
106. Jalan Besar Area	..	..	..	..	..	620	..	69 160 old	..	..	..	848 14	Existing earth drain was consolidated with concrete inverts and slabs. Work completed.	
107. Wayang Satu ..	..	..	..	..	..	..	..	..	..	1,150	..	642 00	Subsoil pipe lines were laid to trap seepages along the toe of the hill-cutting. Work completed.	
109. Mount Pleasant	10	..	..	330	..	330	..	250	..	..	..	1,090 24	The existing earth drain was consolidated with concrete inverts and slabs. Work completed.	
117. Telok Blangah Ravine ..	..	5	..	..	45	20	185	..	2	340	95	2,206 30	An open channel storm water drain was constructed. Subsoil pipelines were laid to trap outcropping seepages. Work completed.	
133. Lor. Bakar Batu	..	10	190 60 old	..	..	90	..	..	..	..	..	5,661 87	A temporary invert drain was constructed along the north side of Lorong Bakar Batu. Work completed.	

Anti-Malarial Area	MATERIALS USED											Labour Cost	Material Cost	Remarks
	Inverts					Slabs			Subsoil Pipes					
	21"	18"	15"	12"	9"	18"	15"	12"	8"	6"	4"			
136. Boon Teck Road	..	60	20	255 50 old	30	1,520	..	..	..	5	..	\$ 13,051 32	\$ 7,648 80	The existing drain at the top end of the ravine was reconstructed with slabs on either side. Work in progress.
165. Burn Road Ravine	396*	437	196 73 old	296	119 6 old	222	..	127	22	992	..	40,174 75	10,716 99	A concrete drain was constructed along the south side of Burn Road to the top end of the Ravine. Subsidiary drains to receive the storm and sullage water were also constructed and sub-soil pipe lines were laid to trap seepages. Work completed.
9. Nassim and Dalvey	600	..	..	..	..	1,900	..	..	22	10	..	8,596 45	3,476 58	The main drain was reconstructed. Work completed.
20. Jervois Road No. 1	10	573	..	10	..	1,126	..	..	..	18	30	7,613 66	2,497 73	Reconstruction of the existing Anti-Malarial drain was continued. Work completed.
21. Jervois Road No. 2	..	310	50	..	..	700	..	..	..	35	..	4,316 54	1,527 70	Re-construction of the existing Anti-Malarial drain commenced. Work completed.
22. Jervois Road No. 3	..	100	695	190	20	1,725	..	..	..	5	..	10,075 58	3,626 62	Work on the reconstruction of the Anti-Malarial drain is in progress.
63. Swiss Cottage ..	150	..	..	..	..	400	..	..	..	10	..	5,634 60	3,217 69	Reconstruction of the main drain was continued. Sloping, turfing and clearing of undergrowth were also carried out. Work completed.
88. Jewish Cemetery	380	128	390	210 20 old	85	2,450	..	270	..	25	..	13,831 16	5,611 74	The reconstruction of the main drain was started. Work in progress.

*21" composite inverts.

DETAILS OF REPAIRS CARRIED OUT TO THE EXISTING ANTI-MALARIAL WORKS

MATERIALS USED																									
Anti-Malarial Areas	INVERTS										SLABS								SUB-SOIL PIPES	Labour Cost	Material Cost				
	21"		18"		15"		12"		9"		18"		15"		12"		8"					6"		4"	
	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R	N	R				N	R		
	75	..	25	..	..	..	..	..	..	..	125	105	..	..	..	..	..	..				..	..	..	
	160	..	100	..	..	..	..	..	..	..	120	80	..	..	..	..	..	..				..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..				
..	..	15	..	95	..	..	..	..	..	270	..	..	..	..	..	..	..	..	..	..	..				
..	..	40	30	25	30	10	..	..	..	50	200	..	..	..	..	..	..	..	..	..	..				
..	..	..	20	..	5	..	..	..	..	30	70	..	..	..	..	..	..	..	..	..	..				
..	25	..	..	10	..	..	..	..	..	220	98	..	..	..	..	..	..	..	..	..	..				
..	248	..	310	..	65	..	135	..	5	15	30	..	..	..	..	..	..	..	..	..	..				
..	..	..	..	..	..	..	8	..	..	87	..	..	..	..	..	..	..	..	..	..	..				
..	15	20	285	60	15	35	5	..	..	310	415	..	..	..	..	..	..	..	..	..	..				
..	300	..	15	..	15	..	..	..	..	70	62	..	..	..	..	..	..	..	..	..	..				
..	35	..	92	..	..	..	10	..	..	950	108	..	..	..	..	..	..	..	..	..	..				
..	..	..	55	..	..	..	..	..	..	120	184	..	..	..	..	..	..	..	..	..	..				
..	..	..	..	..	30	..	..	..	..	50	60	..	..	..	..	..	..	..	..	..	..				
..	165	20	..	..	..	..	..	..	..	20	..	..	..	..	..	..	..	..	..	..	..				
..	180	..	..	..	..	..	35	..	..	280	..	..	..	..	..	..	..	..	..	..	..				
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Kampong	MATERIALS USED								Labour cost	Material cost	Remarks	Distribution of Maintenance Gangs		
	Inverts				Slabs								Hume Pipe	Miscellaneous
	12"		9"	18"	15"	12"	24"							
	15"	12"												
NORTH														
Jalan Anggrek	..	75	..	..	..	..	..	..	108 40	98 16	New drainage provided for standpipe			
Jalan Belankas	..	14	..	..	..	..	..	4	86 40	44 19	do.			
Kampong Sireh	..	..	..	..	..	..	..	..	18 20	9 60	do.			
Pereira Road (Kg. Koo Chai)	6	100	..	8	..	172	..	..	564 70	353 95	do.			
Woodsville Road	..	55	..	80	..	27	..	8	169 97	218 07	do.			
Moonstone Lane	..	30	..	(old) 60	..	..	..	..	171 19	153 96	do.			
Lorong 17 Geylang	..	6	..	..	..	..	..	..	36 84	12 36	do.	} 13 labourers.		
Lorong 23 Geylang	..	6	..	..	..	..	..	..	18 42	15 36	do.			
St. Wilfred Road	..	150	..	100	..	170	..	..	875 17	487 07	do.			
Aljunied Road	..	74	..	142	..	10	..	2—6' x 12"	167 60	202 98	do.			
Kg. Geylang Serai	..	..	5	(old) 130	..	..	..	..	13,676 84	296 96	General Maintenance and repairs ..			
Kampong Amber	..	..	15	60	..	..	..	..	1,713 10	32 06	do.			
Kg. Wayang Satu	..	..	..	(old)	..	..	..	..	971 10	..	General routine maintenance	} 1 labourer plus 1 Man-3 labourers dore.		
Kg. Java Area	..	..	..	..	..	..	..	..	1,942 20	..	do.			
SOUTH														
Kampong Silat	20	110	190	220	30	140	..	..	16,531 52	973 19	M.K. 1 General Maintenance	} 11 labs. plus 1 lab. 2 labs. 1 lab. 3 labs.		
Kampong Silat S.I.T.	..	..	..	..	..	..	..	..	1,255 80	..	do.			
Kg. Mt. Washington	..	..	..	..	..	..	..	..	2,511 60	..	do.			
Kg. Bukit Permai	..	..	..	..	..	..	..	..	1,222 20	..	do.			
Kg. Alexandra	..	..	..	..	..	..	..	..	2,915 80	..	do.			
Kim Tian Road	110	120	50	240	300	..	..	2 culverts 15"	879 02	1,004 19	Construction of new drainage			
King's Road/Victoria Park junction	..	..	..	..	..	..	..	3 slabs 24" old	28 86	50 83	Construction S/pipes washing basin			
Radin Mas	..	26	..	..	..	..	..	..	19 24	40 48	Construction new drainage for S/pipes			
Duchess Road	..	155	10	16	50	..	..	..	224 90	295 28	do.			

CHEMICAL LABORATORY

I HAVE the honour to report on the work carried out in the Chemical Laboratory during 1955.

The total number of samples received and analysed during the year amounted to 24,840. The high average amount of samples received the previous year was maintained and would have undoubtedly achieved a much higher level were it not for a strike within the City Council labour force, during which period the samples received were greatly reduced in numbers.

The samples examined were submitted by all the departments of the City Council and included a large number sent in by Commercial Firms. Some samples connected with the study of corrosion under tropical conditions were examined for the Pan-Malayan Scientific Advisory Council. The samples can be classified according to their source of origin as follows:—

Water Department	...	...	15,637
Sewerage Department	...	...	3,497
Architect's Department	...	...	2,061
Health Department	...	...	954
Gas Department ...	...	...	170
Stores and Workshops	...	...	7
Fire Brigade ...	...	...	3
Cleansing Department	...	...	1
Electricity Department	...	...	1
Pan-Malayan Scientific Advisory Council			32
Commercial Firms	...	...	2,477
			24,840

A general indication of the nature of these samples and of the diverse consultative and advisory duties carried out for the various departments of the Council is given below.

WATER DEPARTMENT

The following samples were received and reported on:—

Water samples taken at various stages during treatment (12,867), water from camp supply (1,455), water from clear water tanks (46), water from Tebrau River for arsenic test (102), water from mains, taps, etc. (332), water from Bedok wells (13), water from Bedok stream (1), alum (18), Potassium alum (1), Sodium aluminate (1), lime (2), Soda ash (2), Sodium hexametaphosphate (2), Sodium silicate (3), sodium silicofluoride (2), chloride of lime (8), Sterilizing tablets (2), copper gauge (1), Klear Glass (1), nickel rod (1), galvanised pipe (1), rubber hose (1), sand (19), transformer oil (1), respirator canisters (7), carbon tetrachloride (2), Boiler water (274), flue gas (1), deposit (2), surface scum (1), filter media (3), film on filter (1), scale from economiser tube (1), reagents, indicators and solutions (397), Electric Bulbs (66).

The intensive investigations of the past few years into better, and more economical methods of water treatment were pursued.

Pre-filtration liming at Tebrau Works, which had been limited by works design to one filter only, was applied to all the filters with marked success. Filters runs were extended 3-4 times with concomitant saving in filter wash-water. In view of the success of this treatment at both Tebrau and Bukit Timah it was possible to discontinue altogether the application of lime to the filtered waters. This was achieved by raising slightly the pre-filtration lime

dosage to produce a water with pH about 8.0. This refinement in application of lime resulted in some small financial savings but, more importantly, it removed the undesirable practice of adding lime to a treated and chlorinated water. Deposition in the clear water tanks was also substantially reduced.

Re-newed lime/alum treatment, in conjunction with the use of the new sedimentation tanks, at Gunong Pulai indicated that here also, pre-filtration liming will be a most valuable adjunct to treatment.

Full works scale activated silica treatment was introduced at Tebrau during August. Despite the interruption of the City Council Labour strike, the results obtained from this treatment were excellent. From an average of 16-17 m.g. per day previously achieved by pre-filtration liming, from the whole works, i.e. 5 units, the output was raised to 21 m.g. per day from 4 units equivalent to more than 26 m.g. per day through the whole works and, still more satisfactory, the quality of the water was enhanced. The value of activated silica treatment lies not so much in cheaper running costs but in the very considerable savings in new capital expenditure for new treatment plant.

Dosing of sodium hexametaphosphate was re-introduced at Woodleigh Work in March but several factors, necessary for effective treatment, were not fulfilled. Mixing procedure, flow variations, and filter leaks all contributed to ineffective treatment. These were eventually rectified and some improvement was obtained but the high iron content in the filtered water continued to give cause for concern. The view that the sodium hexametaphosphate was re-dissolving deposited iron from the filter beds was investigated but not substantiated. Discontinuance of the phosphate treatment produced no improvement but rather the quality of the water deteriorated further. In order to improve the quality of the water liming at the inlet to the filters, chlorination at filter inlets and deep scraping of the filter beds were resorted to in succession but only the latter met with any success but this was not permanent. There is no doubt that factors contributing to this poor quality water were exceptional high iron content in the raw water, prolonged drought and very high temperatures—promoting increased bacterial activity in the filter beds. About this time plans were completed to change Woodleigh over to flocculation with chemicals—sedimentation and rapid gravity filters and the necessary re-construction is, at the time of writing, nearing completion. This will certainly rectify the recurring difficulties obtained with slow sand filtration only of catchment water with high iron content.

Another investigation was the use of sodium aluminate with sulphate of alumina as a coagulant at Bukit Timah. This showed that sodium aluminate is an effective coagulant but was too sensitive to small changes in the quality of the raw water. It may however, be more suitable to other sources of supply e.g. Tebrau river, and may be given a trial there at a later date.

Various clays e.g. Bentonite were tried as aids to coagulations but were not found particularly effective.

In general, this Department can be more than satisfied with its' efforts in the field of water treatment and control during the year.

SEWERAGE DEPARTMENT

The following samples were analysed:—

Routine sewages, sludges, top-waters and effluents (2,731), special sewages (15), special sewages for dissolved oxygen test (64), special sludges (1), effluents from private installations (387), river, stream and pond waters (162), sewer waters (89), sub-soil water (3), Bentonite (1), local clay (1), soil (1), sand (1), glazed ware pipes (18), brick (1), atmosphere (2), spiralarm safety lamps (9), marconi pH meter (1), chemical reagents (10).

Regular analyses were done on sewage samples, sludges, etc., taken from the two sewage disposal works, one sited at Alexandra Road and the other at Kim Chuan Road. The average analyses of the effluent from these works, which flow into Alexandra Road stream and Serangoon River respectively, are given below, expressed in parts per 100,000.

	INTO ALEXANDRA ROAD STREAM		INTO SERANGOON RIVER	
	<i>Range</i>	<i>Average</i>	<i>Range</i>	<i>Average</i>
Free and Saline Ammonia	0.56/2.80	1.07	1.20/2.80	2.09
Albuminoid Ammonia ...	0.08/0.60	0.23	0.20/1.00	0.51
Oxygen absorbed in 4 hours ...	0.36/4.90	1.10	1.45/4.05	2.80
Biochemical Oxygen De- mand ...	0.59/6.25	1.90	1.46/10.6	6.35
Total Solids ...	26.4/540.2	87.4	22.8/380.2	70.1
Suspended Solids ...	0.7/8.6	2.2	0.8/8.9	3.6
Nitrates (as N) ...	abs./0.3	0.10	abs./0.1	abs.
Chlorides (as Cl) ...	9/270	31	9/168	20
pH ...	7.1/7.9	7.4	7.2/7.8	7.4

The effluent discharging into Alexandra Road Stream which ultimately enters the Singapore River is of the same good quality as that obtaining in 1954. That flowing into Serangoon River, however, shows a slight deterioration consequent on the increased overloading of the plant. The quality of this effluent is not likely to improve until the extension of the Kim Chuan Road Works is completed.

Effluents from private installations were also examined and, in general, were of fairly good quality. The ranges and average chemical analysis of the samples examined are as follows:—

	<i>Range</i>	<i>Average</i>
Free Ammonia ...	0.16/8.00	1.72
Albuminoid Ammonia ...	0.08/1.60	0.30
Oxygen absorbed in 4 hours ...	0.18/6.75	1.46
Suspended Solids ...	0.40/10.20	2.35
Chlorides ...	0.60/34.00	2.89
Nitrates ...	abs./2.70	0.33

River water taken from several points along Sungei Jurong, Sungei Pandan, Bukit Timah Road canal, Rochore Road canal, Serangoon River, Kallang River and Singapore River were examined for dissolved oxygen content which was found to be absent, or present in only negligible amounts, in most of the samples.

A large number of samples taken from sewers were tested to determine the extent of infiltration of sea-water. Several samples of sub-soil water taken from the vicinity of sewers were analysed in order to locate faults in the sewers.

A sample of bentonite clay and one sample of a local blue clay were examined to ascertain if they could be used in cement mixtures for water-logged areas and for sewer main repairs. The local clay appeared to have as much efficacy as the bentonite. Several samples of sand, glazed ware pipes and bricks were examined for compliance with standard specifications.

Two samples of air taken at the site of excavation for sewers were found to contain hydrogen sulphide in large amount.

Throughout the year the writer attended several meetings in an advisory capacity in connection with the extension of the Kim Chuan Road Sewage works and with the siting, of the outfall at the proposed new works at Ulu Pandan.

ARCHITECT'S DEPARTMENT

The following samples were analysed:—

Pool Water (Mount Emily) (870), Pool Water (Yan Kit) (1,106), Aquarium water (65), Sea-water (14), Salt (1), Unknown powder (1), Chemical reagents (4).

Daily tests were done on pool waters from the two swimming pools run by the Architect's Department at Mount Emily and Yan Kit Road. The good quality of the water of both pools were maintained over the greater part of the year. A temporary deterioration occurred towards the end of January at both pools. The water was observed to be black in patches and the discolouration was traced to a black deposit originating from the filter media. The deposit was found to contain a high proportion of copper. The fault was cleared up early in February after thorough washing of the filter media and re-positioning of the dosing points of chemicals to prevent formation of the black deposit.

Routine analysis were done regularly on both fresh and salt water from the Van Kleef Aquarium. The salinity of sea-water taken from various points on the off-shore of Singapore was determined.

HEALTH DEPARTMENT

A total of 954 samples were received and reported on. The number of formal samples received under the Sale of Food and Drugs Ordinance was 301 of which 100 were found to be adulterated, below standard, or otherwise irregular, and certificates were issued for these samples. The proportion of unsatisfactory samples was 32.2 per cent, as compared to 24.0 per cent for 1954. Details of the adulteration and other irregularities found are given in Table D.

The nature and variety of the samples examined can be seen from the following account of the work carried out for the Health Department.

Routine tests were done regularly on samples of food and beverages manufactured locally in premises licensed by the Health Office. These samples were tested for general compliance with standards and for metallic contamination, saccharin, and prohibited preservatives. The foods examined include the following:—

Soda water, aerated waters, non-carbonated drinks, soya bean milk, ice-cream, pineapple juice, syrup, soya bean sauce, mixture used in sauce manufacture, chilly sauce, canned pineapple, peppermint sweets, coconut drop, other sweets, "kaya".

Imported food likely to contain toxic metals derived from the containers and prohibited preservatives were also examined; they include the following:—

Canned fruit juice, canned lichees and other fruits, beer, evaporated milk, etc.

The following foods were examined for adulteration and for conformity with statutory standards:—

Gingelly oil, cooking fat, cooking oil, groundnut oil, ghee, butter; milk, boiled milk, sweetened condensed milk, powdered milk, evaporated milk, dried whey, skimmed milk powder, cheese; coffee mixture, coffee powder, beverages, stout, milk stout, vinegar, pepper mixture, pepper powder, chilly powder, tumeric powder, tomato sauce, maize powder, ground almond, sardines, canned mushroom and chicken, canned sausages, Benger's food.

Adulteration of edible oils and fats with mineral oil, a frequent occurrence in previous years, was not found in any sample examined during the year. Out

of 146 samples of milk examined 31 were found to be unsatisfactory, which is 21.2 per cent of the total number submitted. Coffee mixtures on sale in the City were generally of poor quality. Out of 59 samples analysed, 33 were deficient in the stated coffee content.

The following drugs were tested for conformity with British Pharmacopoeia and other standards:—

Mercurochrome solution, tincture of iodine, Friar's Balsam, oil of winter-green, black draught, solution of hydrogen peroxide, liquid paraffin, camphorated oil, tablets of acetylsalicylic acid, Vitamin B1 tablets, almond oil, olive oil, castor oil, caustic soda solution, lotions for external application, "Bir-tab" tablets, "Pep-tab" tablets, chocolate worm cake, Chinese and Indian drugs.

The following foods were examined for fitness for consumption:—

Reconstituted milk, wheat flour, raw rice, canned cauliflower, miscellaneous canned food.

Other samples which were analysed include the following:—

Well waters, star anise, anti-malarial oil, dioldrex, tea.

Well waters examined during the year were taken mainly from Frankel Estate, Braddel Road, Kings Road and Kheam Hock Road.

Several samples of anti-malarial oil were tested for the Anti-malarial Department for viscosity, density and spreading power.

The fluorine contents of brews of imported teas as well as those grown locally were investigated in connection with the proposed fluoridation of the City water supply.

Following the reported illness of several police constables two samples of Star Anise on sale in Singapore were examined; one was the Chinese variety and the other the poisonous Japanese Star Anise. The latter variety was very widely sold in Singapore, but since the discovery of its poisonous nature this variety has disappeared from the Singapore market. Steps have been taken to ban all future imports.

GAS DEPARTMENT

The following samples were received for analysis:—

Coal (38), Boiler Water (82), Gas Holder Water (26), Town Gas (2), Wood preservatives (6), Oxide (9), Breeze (1), Deposits (2), Sago Flour (4).

The condition of the boiler water which uses phosphate treatment was consistently good throughout the year.

Water from gas holders were examined in connection with extensive stripping of the paint-work of the holders, and were found to be strongly ammoniacal. Replenishment of the alkaline water with fresh water resulted in conditions less corrosive to paintwork, and a large number of samples were examined to determine the progress of renewal of the water.

Two samples of town gas taken from the laboratory supply were tested for ammonia and naphthalene contents, and were found to be much lower than those obtained previously.

Two deposits from gas mains were examined; one was found to be mainly iron oxide, with small amounts of sulphur, iron cyanide and naphthalene; the other deposit was mainly zinc cyanide.

Six samples of wood preservative made from coal distillation by-products, including coal tar and creosote, were tested for viscosity and other physical properties.

STORES AND WORKSHOPS

Seven samples of cast iron were analysed for composition.

FIRE BRIGADE

Three samples of oil were received for classification under the Petroleum Ordinance.

CLEANSING DEPARTMENT

One set of test papers for the detection of hydrogen sulphide gas was prepared for use by the Cleansing Department.

ELECTRICITY DEPARTMENT

One deposit taken from a turbine blade was analysed for composition.

COMMERCIAL FIRMS

A total of 2,477 samples were received and reported on.

The samples may be classified as follows:—

Essential Oils	...	...	...	97
Vegetable Oils	...	...	...	609
Ores	...	...	...	68
Metals and Alloys	...	...	...	18
Food	...	...	...	439
Chemicals	...	...	...	42
Local Products	...	...	...	589
Damaged Goods	...	...	...	127
Miscellaneous	...	...	...	488
				2,477

The range of the samples examined is given in the following lists:—

Essential Oils

Eucalyptus, patchouli, cananga, citronella.

Vegetable Oils

Palm, palm oil sludge, coconut, groundnut, Chinese wood-oil.

Ores

Bauxite, columbite, galena, iron pyrites, monazite sand, wolfram, ores of copper, gold iron, manganese, tin.

Metals and alloys

Aluminium ingot, Babbit Metal, Bearing metals, Bronze, Gun metal, lead, pig iron, white metal, refined tin scrap metal.

Food

Reconstituted milk, fresh milk, sweetened condensed milk, evaporated milk, ice cream mix, margarine, ghee, wheat flour, sago flour, tapioca flour, rice flour, pearl sago, rice, rolled oats, sugar, glucose, sweets, chocolate coating, dried fish, cockles, pork sausages, sauries, cauliflower, canned food, dried mushrooms, coffee powder, tea, sesame seeds, yeast, monosodium glutamate.

Chemicals

Carbon dioxide, monoethanolamine, acids, calcium carbonate, sodium hydroxide, trisodium phosphate, sodium saccharin, sodium arsenite, preparation of solutions.

Local Products

Jelutong, latex, copra, copra cake, palm kernels, illipenut butter, cutch, gambier, mangrove bark, patchouli leaves, derris root, gum benjamin, damar batu, soap powder, washing soap.

Damaged goods

Sugar, phosphate, cauliflower, rubber, textile, cotton shirting, scrappings, rotosan air-condition discs, soya beans, galvanised corrugated sheeting, galvanised barbed wire, cotton, grey drill, joss paper, starch, fire-clay, betelnuts, cargo rice, scale, abalone, canned food and canned fruits, agar-agar, plastic sheet, flooring tiles, parboiled rice, canvas, tea, tea-dust, mild steel bar.

Miscellaneous

Pool water, tap water, well water, sewage effluent, sand, cement, mortar, concrete, floor covering, soft board, aluminium sheet, tin tubing, fuel oil, diesel oil, transformer oil, lubricating oil, anthracite, coke, boiler compound, gas in cylinders, textile, blankets, woolen sweaters, lemonade draught, cough syrup, glycerin of borax, Vitamin tablets, medicines, face powder, hair cream, mosquito destroyer, ink remover, china clay, clay, lithopone, beeswax beef tallow, seedlac, gum copal dust, poultry feed, pig meal, prawn dust, fish meal, fertilizer, bunch ash, sterameal, salvaged materials, deposits, unknown substance.

COMMITTEES

The City Analyst on official nomination served on the following committees:—

1. Corrosion and Tropicalisation Committee of the Pan-Malayan Scientific Advisory Council.
2. Advisory Committee in Fluoridation.
3. Food and Drugs Committee.

The City Analyst was also external examiner to the Royal Sanitary Institute.

LABORATORY ACCOMMODATION

Towards the end of the year work commenced on the new extension to the laboratory and is progressing satisfactorily. It is expected that the new laboratory will be ready for occupation by the end of May 1956.

STAFF

Mr. Chia Hong Hoe, Assistant Analyst went on study leave on 4th October, 1955 for approximately 18 months. Mr. Swee Lian Choo, retired Laboratory Officer, was re-engaged for the period of Mr. Chia's absence. Mr. P. Thangavelu, Head Laboratory Attendant resigned in August 1955 after more than 24 years service in the Department. Considerable difficulty was experienced during the year in recruiting and retaining Probationary Laboratory Assistants.

I have again to record my thanks to all members of the staff for their willing co-operation during the year.

T. A. SPILLANE,
M.SC., A.R.I.C., F.I.C.I.,
City Analyst.

TABLE A

RESERVOIR WATERS

AVERAGES OF DAILY ANALYSIS FOR YEAR 1955
(PARTS PER MILLION)

Parts per million	PONTIAN		PULAI		MACRITCHIE		PIERCE		TEBRAU	
	Average	Range	Average	Range	Average	Range	Average	Range	Average	Range
Nitrite Nitrogen (as Nitrogen)	a	..	a	..	a	...	a	..	a	..
Carbon Dioxide	3.2	1.9/5.1	4.7	2.4/8.7	1.8	1.1/3.4	1.8	1.3/3.2	3.6	2.6/4.5
Total Alkalinity (as CaCO ₃)	4.4	3.8/5.1	4.7	4.0/5.5	1.9	1.4/2.2	1.5	1.1/2.1	2.6	2.0/3.5
pH Value	6.6	6.4/6.8	6.3	6.1/6.6	6.2	5.9/6.5	6.1	5.9/6.4	6.1	6.0/6.3
Iron	0.48	0.33/0.72	0.54	0.18/1.20	0.35	0.22/0.50	0.52	0.35/0.80	0.36	0.27/0.49
Colour (Hazen Units)	18	14/22	34	8/87	19	13/31	21	15/29	39	24/60

TABLE B

PURIFIED WATERS

AVERAGES OF DAILY ANALYSIS FOR YEAR 1955

Parts per million	PULAI		BUKIT TIMAH		WOODLEIGH		TEBRAU	
	CLEAR WATER TANK		CLEAR WATER TANK		CLEAR WATER TANK		CLEAR WATER TANK	
	Average	Range	Average	Range	Average	Range	Average	Range
Nitrite Nitrogen (as Nitrogen)	a	..	a	a/t	t	a/t	a	..
Carbon Dioxide	0.08	a/0.50	0.40	0.05/0.80	0.11	a/0.8	0.23	a/0.5
Total Alkalinity (as CaCO ₃)	10.9	9.2/12.6	8.4	6.9/9.5	15.4	12.8/19.9	10.4	9.6/11.5
pH Value	8.6	8.2/8.8	7.7	7.3/8.4	8.5	8.0/8.8	8.2	7.6/8.7
Free Chlorine	0.5	0.38/0.74	0.24	0.19/0.29	0.47	0.31/0.69	0.55	0.43/0.75
Soluble Aluminium (as Al)	..	..	1.10	0.69/1.79	..	..	0.49	0.29/0.64
Iron	0.36	0.24/0.50	0.18	0.05/0.38	0.55	0.06/1.48	0.05	0.05/0.06
Colour (Hazen Units)	12	9/16	6	< 5/9	15	5/35	< 5	< 5/7

CLEAR WATER TANKS

AVERAGES OF MONTHLY COMPLETE ANALYSIS 1955

Parts per Million	GUNONG PULAI		BUKIT TIMAH		WOODLEIGH		TEBRAU	
	CLEAR WATER TANK		PUMPING MAIN		PUMPING MAIN		CLEAR WATER TANK	
	Average	Range	Average	Range	Average	Range	Average	Range
Ammoniacal nitrogen (as NH ₃)	0.25	0.10/1.32	0.15	0.10/0.20	0.27	0.15/0.48	0.18	0.12/0.24
Albuminoid nitrogen (as NH ₃)	0.05	0.02/0.10	0.04	0.02/0.06	0.05	0.02/0.08	0.04	0.02/0.06
Nitrite Nitrogen (as Nitrogen)	a	a/0.03	a	a/t	t	a/s		
Nitrate Nitrogen (as Nitrogen)	0.01	a/0.03	a	..	0.01	a/0.03	..	a/0.02
Carbon Dioxide	a	..	0.5	a/1.2	0.1	a/0.8	0.3	a/1.8
Total Alkalinity (as CaCO ₃)	10.8	8.0/13.0	8.3	6.0/11.0	16.9	14.0/24.0	10.0	8.0/12.0
Free Chlorine	0.52	0.40/0.70	0.27	0.20/0.35	0.51	0.30/1.00	0.50	0.30/0.60
Iron	0.37	0.20/0.60	0.15	0.05/0.40	0.53	0.05/1.20	0.05	0.05/0.05
Soluble Aluminium (as Al)	..	..	1.04	0.60/1.80	..	..	0.51	0.10/0.80
Chlorides (as Cl)	7	6/8	6	6/7	6	5/8	6	5/6
pH	8.6	8.3/8.9	7.7	7.2/8.6	8.7	7.8/9.3	8.1	6.8/8.8
Oxygen absorbed from KMnO ₄ soln. in 4 hrs.	0.60	0.35/0.90	0.48	0.15/0.75	0.56	0.15/1.05	0.40	0.10/0.65
Temporary Hardness (as CaCO ₃)	10.8	8.0/13.0	8.3	6.0/11.0	16.9	14.0/24.0	10	8.0/12.0
Permanent Hardness (as CaCO ₃)	2.2	0.5/7.5	13.2	2.5/18.5	5.7	2.5/21.0	13.6	10.0/17.5
Total Hardness (as CaCO ₃)	13.0	8.5/19.5	21.5	8.5/28.0	22.6	18.0/42.0	23.6	20.0/29.5
Organic Solids	15	2/21	15	6/22	20	6/62	12	5/20
Inorganic Ash	26	14/40	35	23/57	26	7/58	31	20/42
Total Solids	41	33/59	50	29/73	46	25/120	43	31/56
Colour (Hazen Units)	12	5/20	6	< 5/10	14	< 5/28	< 5	< 5/5
B.O.D. in 5 days	0.31	0.15/0.65	0.30	0.15/0.55	0.60	0.15/1.70	0.21	a/0.55

FOOD AND DRUGS SAMPLES ADULTERATED OR OTHERWISE IRREGULAR

Number	Sample	Nature of Irregularity
7	Milk ..	Deficient in solids-not-fat and fat.
15	Milk ..	Deficient in solids-not-fat.
4	Milk ..	Deficient in fat.
5	Boiled Milk ..	Contained added water.
33	Coffee Mixtures ..	Deficient in coffee.
1	Coffee Powder ..	Deficient in coffee.
1	Coffee Powder ..	Incorrectly labelled.
2	Maize Powder ..	Deficient in pepper.
1	Pepper Mixtures ..	Contained negligible amount of butter.
1	Compound of Vegetable Oil and Butter ..	Contained saccharin.
5	Soya Bean Sauce ..	Contained saccharin.
4	Aerated Waters ..	Contained saccharin.
4	Barley Syrup ..	Contained saccharin.
1	Barley Water ..	Contained saccharin.
1	Orange Syrup ..	Contained saccharin.
1	Almond Syrup ..	Contained saccharin.
2	Vinegar ..	Artificial vinegar.
4	Canned Lichees ..	Unsatisfactory tin container.
1	Chinese Drug ("Poo Kow In") ..	Contained 0.8% lead.
1	Chinese Drug ("Poh In Tan") ..	Contained 0.85% lead.
1	Indian Drug ("Kasturi" Pills) ..	Contained 1.4% lead.
4	Tablets of Vitamin B ₁ ..	Deficient in Vitamin B ₁ .
1	"Pep-Tab" tablets ..	Misleading label.
1	Skimmed Milk Powder ..	Not coloured.
100		

BACTERIOLOGICAL LABORATORY

I HAVE the honour to submit the following report on the work of the bacteriological laboratory during the year 1955. This report is made up of the following sections:—

	1954	1955
A. Public Health Specimens	39,499	43,138
B. Water (1) Routine	13,429	13,221
(2) Mount Emily and Yan Kit Swimming Pools	2,487	2,501
(3) Miscellaneous	290	307
(4) Algae and Others	147	111
C. Sewerage—Wash Water	40	35
Grand Total	55,892	59,313

The figure for the year 1955 denotes another increase in the specimen over the previous year.

A. PUBLIC HEALTH SPECIMENS

The total number of specimens received were 43,138 and were from the following sources:—

	1954	1955
1. City Health Office	11,565	13,913
2. Infant Welfare Clinics	4,829	5,105
3. Middleton Hospital	8,929	8,904
4. St. Andrew's Mission Hospital	5	19
5. Kwong Wai Siu Free Hospital	13	17
6. Johore Water Works	103	69
7. Private Medical Practitioners	5,150	5,162
8. Rats from Plague Prevention Unit	5,716	5,840
9. Ecto-parasites of Rats—Plague Prevention Unit	3,189	4,109
Grand Total	39,499	43,138

During the year with the introduction of new Provident Fund Rules, a large number of staff required medical examination resulting in the increase in the number of specimens from the City Health Medical Officer in charge Staff.

MALARIA

1,919 blood films were examined for malarial parasites:

Number of positive for <i>P. falciparum</i> ...	1
Number of positive for <i>P. vivax</i> ...	13

TUBERCULOSIS

Source	Positive	Negative	Total
Sputum	29	2,700	2,729
Others	...	71	71
Total	29	2,771	2,800

ENTERIC FEVER

	Positive	Negative	Total
Agglutination with Sal. Typhi ...	107	260	367
Agglutination with Sal. paratyphi A ...	3	287	290
Agglutination with Sal. paratyphi B ...	3	287	290
Agglutination with Sal. paratyphi C ...	2	288	290
Blood clot culture Sal. Typhi isolated ...	45	249	294
Faeces culture Sal. Typhi isolated ...	69	847	916
Urine culture Sal. Typhi isolated ...	6	866	872
Specimen of Pus for isolation of Sal. Typhi ...	...	1	1
Total ...	235	3,085	3,320
Agglutination with Vi I antigen ...	...	...	374
Grand Total ...	...	...	3,694

TROPICAL TYPHUS

Blood for Weil Felix Reaction:

Number of sera positive for B. proteus OXK ...	0
Number of sera positive for B. proteus OX19 ...	0
Number of sera investigated ...	456

DYSENTERY

1,576 specimens of Faeces were examined for Amoebae:

Number positive for E. histolytica ...	64
Number positive for E. coli ...	12

711 specimens of Faeces were cultured for Bacillary Dysentery:

Number positive for Shigella flexner ...	32
Number positive for Shigella sonnei ...	16
Number positive for Shigella schmitz ...	1

The species and distribution of all rats and ecto-parasites that were examined are given in the following table:—

Source	<i>R. Norvigicus</i>		<i>R. Rattus</i>		<i>R. Concolor</i>		<i>R. Musculus</i>		<i>Croci-dura</i>	TOTALS		Rats	Preg-nant
	M.	F.	M.	F.	M.	F.	M.	F.		Fleas	Mites		
1. Town Area ..	1,090	1,978	226	161	398	665	206	58	84	3,254	247	4,866	189
2. Singapore Harbour Board ..	28	64	73	97	28	23	11	13	3	144	24	340	15
3. Health Officer (Port) ..	..	..	82	107	6	6	3	..	..	..	..	204	38
4. Health Officer (Rural) ..	8	23	32	57	58	79	82	85	6	367	73	430	27
	1,126	2,065	413	422	490	733	302	156	93	3,765	344	5,840	269
Total ..	3,191		835		1,263		458			4,109			
Total Pregnant ..	144		58		44		23						269

A total of 460 dead rats were received from the following sources:—

(1) Town Area ..	248
(2) S.H.B. ..	—
(3) H.O. (Port) ..	204
(4) H.O. (Rural) ..	8
	—
	460
	—

Of the 3,765 fleas caught and examined 1 was identified as *C. felix* and the rest were *X. Cheopis*.
The flea index in the Town Area was 0.67.

PLAGUE

No human specimens were received.

5,840 rats were dissected and none showed any signs of plague infection.

4,109 ecto-parasites were examined.

CEREBRO-SPINAL FEVER

One specimen of cerebro-spinal fluid was examined and the meningococcus was not demonstrated in the specimen.

LEPROSY

Skin smears—Positive	...	...	...	13
Negative	...	...	...	29
Total examined	...			<u>42</u>

DIPHTHERIA

Throat Swabs for Culture for *C. diphtheriae*:—

Positive	...	...	...	846
Negative	...	...	...	6,808
Total examined	...			<u>7,654</u>

MISCELLANEOUS EXAMINATIONS

Pathological exudates for General Examinations	...			26
Urine for General Examination	...	...		4,728
Pus and Urine for Gonococci	...	...		434
Blood for Kahn Test	...	...	...	2,003
Faeces for Intestinal parasites	...	...		11,194
Sundried Humus	...	...	...	176
Tinned Foods	...	...	...	12
Milk	...	...	...	153
Ice-cream	...	...	...	92
Disinfectant	...	...	...	4
Others	...	...	...	1,115
Total	...			<u>19,937</u>

B.—(1) WATER—ROUTINE

15,722 routine samples of water from City Water Engineer were tested bacteriologically.

Throughout the year, the condition of the tap water remained *Satisfactory*.

Results of Examination on the various samples were summarised in the following table:—

Source	Year's average total colonies per m.l. at 37° C. in 24 hours	Year's average presumptive coliform count per 100 m.l.
MacRitchie Reservoir Valve Tower ...	257	20
Peirce Reservoir Valve Tower ...	307	9
Seletar Reservoir Channel ...	209	13
Pontian Reservoir Valve Tower ...	362	57
Bukit Timah Reservoir Clear Water Tank ...	18	Nil
Woodleigh Reservoir Clear Water Tank ...	67	Less than 1
Gunong Pulai Reservoir Clear Water Tank	16	Nil
Tebrau Clear Water Tank (Outlet) ...	29	2
Pontian Reservoir Camp Supply ...	16	Less than 1
Pearl's Hill Reservoir Tank No. 1 ...	20	Nil
Pearl's Hill Reservoir Tank No. 2 ...	21	Less than 1
Pearl's Hill Reservoir Tank Air Valve ...	28	Nil
Fort Canning Reservoir ...	101	Less than 1
<i>Taps</i> —Bacteriological laboratory ...	50	Nil
Lorong Lalat ...	96	Less than 1
Joo Chiat Office ...	29	Nil
Havelock Road ...	28	Nil
Pasir Panjang ...	26	Less than 1
Dunearn Road Office ...	18	Nil
Average of 6 taps ...	41	Less than 1

B.—(2) MOUNT EMILY AND YAN KIT SWIMMING POOLS

Mt. Emily Swimming Pool

Shallow End ...	9	Nil
Centre Deep ...	10	Nil
Filter Outlet ...	13	Nil

Yan Kit Swimming Pool

Shallow Pool (Inlet) ...	12	Less than 1
Practice Pool (Deep End) ...	17	Less than 1
Main Pool (Inlet) ...	19	Less than 1
Main Pool (Outlet) ...	22	Less than 1

Results of City Council Swimming Pools were satisfactory throughout the year.

B.—(4) ALGAE AND OTHERS

In March, due to the high mortality among the marine fishes in the Van Kleeef Aquarium, the City Architect and Building Surveyor forwarded for examination, a specimen of "Razor Fish" with white spots on the integument. On examination, the spots were the cysts of a protozoan of the order Microsporidia. Complete identification was done by Dr. Marshall Laird, D.Sc. PH.D. of the University of Malaya, as the Microsporidian *Glugea anamala*, which is pathogenic to marine fishes.

C.—SEWERAGE

Thirty-five samples of wash water from the City Cleansing department were examined and were found to be satisfactory.

STAFF

Dr. Heng Siak Kwang joined the staff as Assistant Bacteriologist on 1st July, 1954. On 4th August, 1955 he sailed for United Kingdom on a Sino-British Scholarship. He resigned from the service with effect from 1st October, 1955.

Mr. Lim Thuan Ing was appointed as Clerk on 1st April, 1955.

NG SEE YOOK, L.M.S. (S'pore), D.P.H. (Lond.),
City Bacteriologist.

MATERNAL AND INFANT WELFARE DEPARTMENT

	1955	1954
I. <i>Total number of Confinements in City Area</i> ...	43,457	41,163
Nature of Confinements:		
In Hospital ...	22,238	19,692
By Private Doctors ...	3,159	3,999
By Private Midwives ...	15,879	14,793
By City Council Midwives ...	1,210	1,426
With no skilled attention ...	971 (2.23%)	1,253 (3.04%)
Of these confinements:		
Mothers visited by District Sisters within 10 days after confinement ...	19,924	21,340
Subsequent visits to sick mothers ...	2,645	2,199
Sick Mothers treated in their homes by L.A.H. Os. ...	3,394	3,229
Maternal deaths in puerperium ...	5	15
Mothers removed and untraced ...	84	92
<i>Total number of Births in City Area</i> ...	43,785	41,468
Number of Twins ...	320	306
Number of Triplets ...	4	3
Quadruplets ...	—	1
Still-births ...	732	755
Number of newborn babies seen by District Sisters ...	19,668	21,036
Babies born in Hospital ...	21,737	19,244
Babies untraced ...	85	112
II. <i>Free Midwifery Services from the Clinics</i>		
(a) Free confinements conducted by (10) City Council Midwives ...	1,210	1,426
(b) Number of cases referred from K.K. Hospital for post natal follow-ups by City Council Midwives ...	2,843	2,862
(c) Abnormal cases sent to K.K. Hospital ...	22	16
(d) Number of self attended deliveries followed up by City Council Midwives ...	160	118
(e) Total visits paid by City Council Midwives to patient's home ...	14,257	16,092
III. <i>Visits paid by Health Visitors to homes</i> ...	93,067	92,695
1st visits following Birth Report ...	31,182	30,924
Subsequent visits ...	61,885	61,771
Percentage of Total Births visited by Health Visitors ...	75.19%	75.12%
IV. <i>Clinic Activities</i>		
A. INFANTS		
New Infants 1st attendances at Clinics ...	19,729	22,383
Subsequent attendances of Infants at Clinics	122,019	118,175
Total attendances ...	141,748	140,558
Of these: Attendances of Sick Babies were ...	90,488	84,586
i.e. ...	63.84%	60.17%

			1955	1954
B. TODDLERS CONSULTATIONS				
1st visits	...	...	3,159	4,379
Subsequent visits	...	...	2,098	3,425
Total visits	...		<u>5,257</u>	<u>7,804</u>
C. SICK MOTHERS				
Number of sick mothers treated:				
In Clinics	...	...	13,550	11,672
On District	...	...	3,394	3,229
Total	...		<u>16,994</u>	<u>14,901</u>
D. ANTE NATAL CONSULTATIONS IN CLINICS				
(a) Ante natal mothers 1st attendances	...		4,067	3,643
(b) Subsequent attendances	...	...	9,897	9,336
Total	...		<u>13,964</u>	<u>12,979</u>
Ante natal home visiting by Health Visitors			6,706	5,616
Kahn Blood tests taken	...	...	139	133
Number positive	...	...	19	19
E. FAMILY PLANNING				
Number of new cases advised	...	...	607	633
Revisits { Number coming to check appliances			632	775
Old cases	...	...	398	386
Unsuitable cases and failures	...	...	17	18
Cases referred to F.P.A. Clinics or K.K. Hospital	...	...	798	366
Total	...		<u>2,452</u>	<u>2,178</u>
F. IMMUNISATION AGAINST DIPHTHERIA				
(a) Under 1 year old				
1st injections	...	...	9,059	11,888
2nd injections (Number who completed the course)	...	...	8,367	10,616
Total injections	...		<u>17,426</u>	<u>22,504</u>
(b) Over 1 year old				
1st injections	...	...	4,969	29,175
2nd injections (Number who completed the course)	...	...	4,621	25,762
Total injections	...		<u>9,590</u>	<u>54,937</u>
Visits to homes to follow up cases	...		2,766	5,805
Febrile reactions	...	...	1,099	1,577
(c) Contact cases				
1st injections	...	...	595	1,970
2nd injections	...	...	519	1,890
Total	...		<u>1,114</u>	<u>3,860</u>

	1955	1954
(d) <i>T.A.F.</i>		
1st injections	192	—
2nd injections	129	—
3rd injections (Number who completed the course)	93	—
Total ...	414	—
(e) <i>Boosting dose</i>	168	—
(f) <i>Triple antigen</i>	3	—
G. IMMUNISATION AGAINST DIPHTHERIA AND WHOOPING COUGH		
1st injections	683	181
2nd injections	535	163
3rd injections (Number who completed the course)	417	175
Total ...	1,635	519
Febrile reactions	116	—
H. FREE MILK POWDER DISTRIBUTION		
Total number of new babies given free Milk	1,805	1,553
Number of nursing mothers given free Milk	457	255
Number of re-issues	36,124	28,855
Amount given to Salvation Army ...	672	672
Amount given to Convent Orphanage ...	1,200	1,200
Amount given to Fire Victims	300	—
Total number of lb. of Powdered Milk used	32,446	26,000
V. <i>Supervision of Midwives in Private Practice by Supervisor of Midwives</i>		
(a) Number of inspections of Private Midwives' Bags in 3 Clinics	1,879	2,136
(b) District Visits to check on Private Midwife's work	1,773	1,447
(c) Investigation of puerperal fever reported	67	52
(d) Investigation of Tetanus Neonatorum reported	4	8
VI. <i>Medical Examination of City Council Female Staff</i>		
(a) For fitness to join service, confirmation and to join Provident Fund ...	199	136
(b) For treatment of ailments	117	145
	316	281
BIRTH RATE	48.83	47.19
INFANT MORTALITY	51.49	59.66
NEONATAL RATE	25.80	30.39
MATERNAL MORTALITY RATE	0.97	1.34

COMMENTARY

The birth rate continued to be on the upward trend—the total number of confinements being 43,457 as against 41,153 last year. Consequently, activities in all branches of the Maternity and Infant Welfare Department were increased.

Confinements in Kandang Kerbau Hospital continued to be more popular than ever with their policy of discharging normal cases on 3rd day and in selected cases, 24 hours after delivery. This has caused a drop in the number of mothers in the puerperium visited by District Sisters and in the number of confinements conducted by City Council Midwives. Follow up in homes of some of such Kandang Kerbau cases is carried out by City Council Midwives so that although the figure of actual confinements conducted by our Midwives has decreased, yet the amount of work carried out by them in these "follow-ups", which involves care of mothers as well as bathing of babies, is as great as ever. With the drop in numbers more thorough attention is given to mothers and babies.

The number of confinements without skilled attention continued to drop (971 compared to 1,253 in previous year) with an accompanying decrease in the number of Tetanus Neonatorum reported (4), lowest figure on record.

It is gratifying to note that the Infant Mortality Rate (51.49) and the Neo-natal deaths are also the lowest on record.

The number of mothers in the puerperium seen and treated by Lady Assistant Health Officers in their homes has increased from 3,229 to 3,394, while the number of those treated in Clinics has risen to 13,550 from 11,672.

Visits by Health Visitors to new babies in homes as well as subsequent visits have also accordingly increased.

The percentage of total births visited is 75.19 per cent. Cases confined in 1st class wards and babies under the care of Private Doctors are not visited by City Council Health Visitors as our policy is to leave these cases to the care of their own doctors. However, all mothers are welcome at the clinics, irrespective of class, for advice on care, management and up-bringing of their children, and quite a few of our educated and above middle class mothers do not mind awaiting their turn with the rest to get expert advice.

Attendances in Clinics of new infants and their subsequent attendances continued to rise, with greater demand for treatment—besides the general advice on health measures and infant care. As we feel our first attention should be given to infants and mothers (expectant and in the puerperium), the pre-school toddlers' attendances have dropped. We hope, with increase in staff both doctors and nurses, to be able to give more attention to this age group.

Ante-natal attendances (new cases and re-attendances) and visits by Health Visitors in their homes have also increased.

The Anti-diphtheria immunisation campaign, started in 1954, slackened with the result that response from older children was not maintained. The number of infants under one year who completed the course of diphtheria immunisation does not contrast too greatly with the figure of the previous year, due to the constant contact we have with this age group and therefore are in a better position to urge them to be inoculated. The number of infants who completed the course of combined Anti-diphtheria and Whooping Cough immunisation is more than double that of last year.

There has been a steady increase in the routine medical examination of female employees of the City Council and in consultations for minor illnesses. The total number seen by Senior Assistant Health Officer this year is 316.

Once again the Maternity and Infant Welfare Department was called upon to do relief work at Kampong Silat Fire disaster in September. The fire victims were housed at Old Kallang Airport and three shifts of the nurses went on duty

at this camp for six days to advise and look after the children's feeding and to prepare milk for the infants. Sores, skin diseases due to malnutrition, and minor illnesses were treated by our department. Treatment was followed up later, after we withdrew our staff, at Joo Chiat Clinic.

At different times of the year, visitors from abroad, interested in Maternal and Child Welfare, Child Psychology or Family Planning were shown around the department by Senior Assistant Health Officer.

During the year, four batches of student nurses from General Hospital were given lectures, two by Senior Assistant Health Officer and two by Senior Sister, on the nature and carrying out of our work.

A lecture on Infant Welfare was also given to eight social studies students from the local university by one of the Assistant Health Officers.

We looked forward to the opening of a new clinic at Aljunied / Macpherson Road junction, but owing to difficulty in recruiting staff and unforeseen circumstances, the opening of the clinic was postponed to the early part of January 1956. However, we shifted from Towner Road to Kim Keat Road Clinic in October without further delay, using existing staff and furniture. We hope to be able to open another new clinic at Alexandra / Henderson Road Area in March 1956, when we have recruited two additional Lady Assistant Health Officers and other junior staff required to man two extra clinics.

Our Health Visitor who went to England last year on a Sino-British Scholarship returned to our department this October after having obtained the diploma of the Royal Sanitary Institute for Health Visitor and has since been promoted to Health Sister's post. Two other Health Visitors who left Singapore in February, on Colombo Plan Scholarships, for Maternal and Child Health Course in Australia, returned to the department in November after having obtained their certificates. The report on all our nurses who went abroad for training has been very satisfactory. Our Staff Nurses and Midwives continued to attend lectures given by World Health Organisation Sister Tutor at Kandang Kerbau Maternity Hospital during the early part of the year, thus completing the respective courses, started in the previous year, for all Nurses and Midwives.

The Senior Assistant Health Officer of the Maternity and Infant Welfare Department was granted study leave, commencing from 14th October to take the Diploma in Public Health Course at the local university. Before she became a student again, her assistance was already enlisted for a very active part in the first Singapore Island-Wide Health Week sponsored by Government, held on 21st to 26th November. She was on all committees except one (Finance Sub-Committee) in this project, namely, Executive Committee, Working Sub-Committee, Exhibition Sub-Committee, Publicity-Sub-Committee and was Chairman of Baby Show Sub-Committee. The whole department gave unstinted time and cooperation to make the Island-Wide Health Week a success. It is regretted that only two out of eight Baby Shows were held in City Council Clinics as the policy of the sponsors was to spread health education to the more remote parts of the island.

N. S. MAH, L.M.S.,

*Acting Senior Assistant Health Officer,
City Maternity and Infant Welfare Dept.*

MIDDLETON HOSPITAL

I HAVE the honour to submit the Annual Report of the Middleton Hospital for the year ending 1955.

Table I shows the number of Admissions, Discharges, Deaths etc. during the year.

Table 1

Diseases	Remaining from 1954	Admis- sions	Dis- charges	Died	Remaining
Smallpox	..	..	..	..	..
Cholera	..	..	..	..	..
Plague	..	..	..	..	..
Chickenpox	26	1,769	1,776	1	18
Measles	5	200	190	13	2
Diphtheria	20	460	403	41	36
Diphtheria Carrier ..	5	114	118	..	1
Acute Anterior Poliomyelitis ..	31	19	29	2	19
Late effects of Poliomyelitis ..	..	1	..	..	1
T.B. Meningitis	..	1	1	..	..
Pulmonary Tuberculosis ..	..	2	2	..	..
Typhoid Fever	14	114	121	2	7
Para-typhoid "A"	..	1	1	..	..
Typhoid Carrier	..	5	5	..	..
Amœbic Dysentery	6	136	139	..	3
Bacillary Dysentery	..	17	17	..	..
Clinical Dysentery	..	35	33	..	2
Mumps	1	57	57	..	1
Whooping Cough	..	5	4	..	1
Acute Encephalitis	..	3	..	3	..
Yaws	..	1	1	..	..
Typhoid Carrier Observation ..	..	78	78	..	..
Observations	4	115	116	..	1
Other diseases	2	179	169	8	4
Total ..	114	3,312	3,260	70	96

DANGEROUS INFECTIOUS DISEASES

There were no cases of Smallpox, Cholera or Plague.

TYPHOID FEVER

114 cases of Typhoid Fever were admitted during the year, and with 14 cases remaining on the 31st December, 1954, a total of 128 cases were treated. 2 cases died, a case mortality rate of 1.58 per cent. During 1954, there were 125 admissions with 4 deaths. During the later part of August and early in September, 5 cases, a mother and four children, were admitted from the same house-hold in Hindoo Road. The common source of infection could not be traced.

Table II below shows the admissions and deaths.

Table 2

—	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cases ..	9	12	19	10	11	6	5	7	7	11	5	12	114
Died ..	..	..	..	1	..	..	..	..	..	..	..	1	2

TYPHOID CARRIERS

Two cases of bacteriologically proved typhoid carriers were admitted during the year.

One, an Indian shop-keeper, was found to excrete *B. typhosus* on routine stool examination at the R.N. Asian Hospital. He was treated with a course of penicillin and sulphonamides after which his stools were negative.

The other case was a Malay policeman who was admitted in March for typhoid fever and discharged in June after two courses of penicillin and sulphonamides failed to clear his stool of *B. typhosus*.

He was readmitted 4 times at monthly intervals and was found to be still excreting *B. typhosus*. When it was found that the bacillus was sensitive to aureomycin, he was given a course of this antibiotic. His stools are now apparently free from *B. typhosus* and a follow-up of this patient is in progress.

DIPHTHERIA

460 cases of Diphtheria were admitted during the year, the highest number of cases treated since post-war, a record figure. With 20 cases remaining from the previous year, a total of 480 cases were treated. Of these 480 cases 41 died. 17 cases died within 24 hours after admission. Tracheotomy operation was done on 91 cases (18.9 per cent) of which 25 died, a mortality rate of 27.4 per cent. During 1954, there were 345 admissions with 34 deaths. All the diphtheria cases admitted had no history of previous immunization. 81 cases were from the rural area. Besides the above clinical cases, 114 contact diphtheria carriers with positive swab for *C. diphtheriae* were also admitted for isolation and treatment.

Table 3

ADMISSIONS AND DEATHS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cases ..	27	19	30	31	24	44	36	46	43	40	58	62	460
Died ..	5	2	1	1	5	2	2	6	1	6	5	5	41

Table 4

REGIONAL DISTRIBUTION OF DIPHTHERIA ADMISSIONS

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Urban ..	21	16	25	22	20	39	31	37	37	36	44	51	379
Rural ..	6	3	5	9	4	5	5	9	6	4	14	11	81

Table 5

DIPHTHERIA: ADMISSIONS AND DEATHS BY AGE GROUP

Age	Cases	Deaths
Under 1 year	24	6
1—2 ..	79	14
3—5 ..	219	18
6—10 ..	83	2
11—15 ..	42	1
16—20 ..	8	—
21 year and above	5	—
	460	41

Table 6

ADMISSIONS AND DEATHS BY ETHNIC GROUPS

	Admissions	Deaths
Europeans	1	..
Eurasians	3	..
Chinese	432	36
Indians	9	1
Malays	11	4
Others	4	..
Total ..	460	41

Table 7

DIPHTHERIA

TYPE OF CASES AND DEATHS

	Admissions	Deaths
Laryngeal and Tracheal	132	26
Naso-pharyngeal	103	11
Faucial and Tonsillar	213	4
Nasal	12	—
Total ...	460	41

Table 8

DIPHTHERIA

ADMISSIONS, DEATHS AND TRACHEOTOMY

Total admissions	...	460
Total deaths	...	41
Case mortality rate	...	8.91%
Died within 24 hours after admission	...	17
Number of Tracheotomies done	...	91
Number of Deaths after Tracheotomy operation	...	25

A number of cases suspected of Diphtheria were admitted, but on investigation, they were diagnosed as follows:—

Bronchitis and Broncho-pneumonia ...	...	18
Asthmatic Bronchitis ...	...	4
Acute Tonsillitis and Laryngitis ...	...	115

CHICKEN-POX

1,769 cases of Chicken-pox were admitted during the year, the highest number ever admitted into this hospital in one year.

One case, a female child of 7 years, died 9 hours after admission with symptoms of encephalitis and broncho-pneumonia.

AGE, SEX AND NATIONALITY OF CHICKEN-POX CASES

	0—10 years		11—20 years		21 years +		Total
	M.	F.	M.	F.	M.	F.	
Europeans ...	6	1	2	—	—	—	9
Eurasians ...	12	10	11	3	11	4	51
Chinese ...	108	95	131	63	91	39	527
Indians ...	96	48	118	44	592	58	956
Malays ...	18	16	34	7	62	7	144
Others ...	16	7	12	7	34	6	82
Total ...	256	177	308	124	790	114	1,769

The increased admission does not denote the true incidence of the disease in Singapore as not all the cases of Chicken-pox are admitted. Neither does it denote an epidemic as the admissions occurred about equally throughout the year.

The above Table showed that more than half of the total admissions are Indians, the vast majority among the male adults, the reasons for this being:—

- (1) They are mainly labourers living in labourers' quarters or in dormitories, and any infectious disease among them will spread rapidly.
- (2) They seek hospital treatment as they have no family to attend to their needs at home while they are ill. Chicken-pox in adults can be quite a severe disease.
- (3) These Indian male adults are mostly immigrants from the villages in Southern India and were not infected during childhood. They are very vulnerable and susceptible when exposed to infection in an endemic area like Singapore.
- (4) Indians as a whole are more conscious of the good treatment facilities in hospital.

TROPICAL TYPHUS

There were no cases of tropical Typhus admitted during the year.

MEASLES

200 cases of measles were admitted with 13 deaths. All these cases died of Broncho-pneumonia complicating Measles.

DYSENTERY

Table 9

Type of Dysentery	Admissions	Deaths
Amœbic	136	—
Bacillary	17	—
Clinical	35	—
Total	188	—

Of the 17 cases of Bacillary Dysentery, 12 were type Flexner and 5 Sonne.

ACUTE ANTERIOR POLIOMYELITIS

Table 10

ADMISSIONS AND DEATHS BY MONTH

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Cases ..	3	6	3	1	4	..	1	..	..	1	..	..	19
Died ..	..	..	..	..	1	..	1*	..	..	..	..	..	2*

Table 11

AGE GROUP, SEX AND TYPES OF CASES OF POLIOMYELITIS

Age	Under 1 yr.		1-2 years		3-5 years		6-10 years		11-15 years		15-20 years		20+	
Sex	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Paralytic ..	2	..	3	3	3	3	2	2	..	..	..	..	1	..
Non-Paralytic ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total Cases ..	2	..	3	3	3	3	2	2	..	..	..	..	1	..
Died ..	..	..	..	..	..	..	..	..	..	..	..	..	2*	..

* Includes one patient who was in an iron-lung for 5½ years in this Hospital, died during the year.

Table 12
ADMISSIONS AND DEATHS BY ETHNIC GROUP AND SEX

		Admissions		Deaths	
		M.	F.	M.	F.
Europeans	...	1	—	1	—
Eurasians	...	1	—	—	—
Chinese	...	8	6	—	—
Indians	...	1	2	1	—
Malays	...	—	—	—	—
Total		11	8	2	—

There was no outbreak of this disease. 19 cases were admitted during the year, and with 31 cases remaining from the previous year, a total of 50 cases were treated.

Two cases died during the year; one who had been in an iron-lung for 5½ years, and the other, an European adult, died after 4 days with an ascending paralysis involving the cardiac and respiratory centres.

The number of Poliomyelitis admissions is on the decline, as there was only one case admitted since August 1955. There were 70 cases admitted with 2 deaths during 1954. An average of 20 patients are receiving Physiotherapy treatment daily.

Table 13
OTHER DISEASES

	Remaining from 1954	Admitted	Disch.	Died	Remaining
Acute Tonsillitis	1	105	104	—	2
Acute Laryngitis	—	10	9	1	—
Ascariasis	1	5	6	—	—
Pyrexia of unknown origin	—	1	1	—	—
T.B. Spine	—	1	1	—	—
Pyelitis	—	1	1	—	—
Influenza	—	4	4	—	—
Broncho-pneumonia	—	10	4	5	1
Pneumonitis	—	1	1	—	—
Bronchitis	—	4	4	—	—
Asthmatic Bronchitis	—	4	3	1	—
Ulcer Soft Palate	—	1	1	—	—
Thrush	—	1	1	—	—
Hæmorrhoids	—	4	4	—	—
Stomatitis	—	5	5	—	—
Gastro-enteritis	—	13	11	1	1
Carcinoma Rectum	—	1	1	—	—
Herpes Zoster	—	1	1	—	—
Congenital Heart Disease	—	1	1	—	—
Post-Diph. Paralysis	—	1	1	—	—
Impetigo	—	1	1	—	—
Non-pyogenic Arthritis	—	2	2	—	—
Malnutrition	—	1	1	—	—
Cervical Adenitis	—	1	1	—	—
Total	2	179	169	8	4

Table 14

ADMISSION OF THE IMPORTANT DISEASES FOR THE LAST TEN YEARS

Diseases	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Small-pox	99	41	5	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..	..
Cholera	..	..	..	..	..	..	..	..	..	..
Chicken-pox	256	323	313	373	422	610	450	836	1,313	1,769
Measles	206	54	41	194	50	204	142	117	182	200
Rubella	5	49	5	6	1	11	9	..	1	..
Diphtheria	140	137	184	218	222	370	427	332	345	460
Cerebro Spinal Meningitis	..	..	..	..	..	..	..	..	..	..
Typhoid Fever	6	15	7	4	4	4	2	4	2	..
Acute Anterior Poliomyelitis	74	59	53	62	88	91	117	91	125	114
Erysipelas	137	..	134	68	81	78	50	41	70	19
Whooping Cough	..	2	15	15	12	4	3	..	3	..
Scarlet Fever	34	12	6	8	27	5	3	..	10	5
Mumps	..	..	..	..	..	79	..	..	..	..
Tropical Typhus	42	191	30	3	14	..	15	9	35	54
Amœbic Dysentery	3	1	6	8	3	7	92	4	7	..
Bacillary Dysentery	95	89	65	106	90	105	22	134	122	136
Clinical Dysentery	15	5	1	11	9	18	9	25	18	17
Other diseases, carriers and observations	48	6	40	..	17	40	..	16	34	35
	540	405	893	602	731	591	455	440	647	503
Total	1,701	1,389	1,798	1,678	1,771	2,217	1,796	2,049	2,914	3,312

Table 15

ETHNIC GROUPS AND NUMBER OF DAYS IN HOSPITAL

	REMAINING 1954		ADMITTED 1955		TOTAL	
	No. of Patients	No. of Days in Hospital	No. of Patients	No. of Days in Hospital	No. of Patients	No. of Days in Hospital
Europeans ..	..	..	25	154	25	154
Eurasians ..	1	1	82	724	83	725
Chinese ..	85	5,637	1,670	20,387	1,755	26,024
Indians and Pakis- tanis ..	21	361	1,152	9,744	1,173	10,105
Malays ..	5	48	278	2,362	283	2,410
Javanese ..	..	..	30	234	30	234
Others ..	2	7	75	623	77	630
Total ..	114	6,054	3,312	34,228	3,426	40,282

Table 16

Sex	Remained 1954	Admitted 1955	Total Treated	Discharged	Transferred	Absconded	Died	Total	Remaining at end of 1955	Total Death Per- centage	Average Daily Number of Patients	Number of Beds
Male ..	76	2,214	2,290	2,174	19	..	42	2,235	55	..	..	..
Female ..	38	1,098	1,136	1,055	12	..	28	1,095	41	..	..	..
Total ..	114	3,312	3,426	3,229	31	..	70	3,330	96	2.11	106.9	200

HOSPITAL IMPROVEMENTS COMPLETED IN 1955.

- (1) Expansion and modernization of the kitchen.
- (2) Ambulance garage with facilities for disinfection.
- (3) Water storage tanks.
- (4) Tiling of Ward bath-rooms and latrines.

Under Construction

- (1) A 30 bed cubicle ward.
- (2) Staff canteen and changing-rooms.

STAFF

Acting Senior Sister M. I. Petrie resigned in July. Staff Nurse Tan Gek Kim left for Australia on 15th February, 1955, on a Colombo-plan Scholarship. Mr. Lee Ong Kee was transferred here as clerk in place of Mr. Tan Peng Nam in April.

ACKNOWLEDGEMENT

We are grateful to the following:—

1. Professor G. A. Ransome and Professor Cameron for their services as consultants to the hospital.
2. The Blood Transfusion Service for their help in supplying blood to some of the bad cases of Typhoid and Dysentery.

In conclusion, I wish to thank the Staff for their co-operation and loyalty.

NG SEE YOOK, L.M.S., D.P.H.,
Medical Superintendent,
Midleton Hospital,
Singapore.

CITY MARKETS

I HAVE the honour to submit the 33rd Annual Report on the City Markets of Singapore.

MAJOR RENOVATIONS

Ellenborough Market

The main market was renovated in January and completed in September 1955 resulting in the enlarging of the Fish Auction Yard.

The Hawkers Shelter was also renovated.

Orchard Road Market

The Fish Section was renovated in June and completed in September 1955.

UNSOUND FOODSTUFF

5,228 Heads of Poultry, 17,275 Eggs, 97 lbs. of Mutton and 267,441 katties (approximately 159.19 tons) of Unsound Foodstuffs were removed from the City Markets and delivered to the City Incinerators for destruction.

PUBLIC WEIGHING SCALES

Avery Spring Blances with a maximum weighing capacity of 28 lbs. were maintained in good order for public use.

REVENUE FROM FISH AUCTION

Revenue for the (5) five percent Commission on Fish Auction Sales showed a slight decrease over the previous year. The quantity of fish landed for Auction also showed a decrease.

TABLE A

Market	Period	Quantity Landed and Auctioned Katties	Total Auction Value	Total of 5% Commission Collected
			\$ c.	\$ c.
Ellenborough ...	1955	6,304,055½	3,236,818 80	161,840 94
Clyde Terrace ...	1955	2,722,665½	1,243,972 40	62,198 62
Total ...	—	9,026,721	4,480,791 20	224,039 56

TOTAL REVENUE—TABLE B

Market	1955
	\$ c.
1. Clyde Terrace ...	133,287 62
2. Kandang Kerbau ...	34,576 80
3. Orchard Road ...	29,699 52
4. Sims Avenue ...	12,973 60
5. Grange Road ...	4,283 60
6. Ellenborough ...	229,821 14
7. Telok Ayer ...	37,974 00
8. Maxwell Road ...	22,761 20
9. Peoples Park ...	14,981 60
	<u>520,359 08</u>

GENERAL

I wish to place on record that during the strike which commenced from 17th August until 1st September, 1955 (inclusive) the labourers stayed away from work, and all removal of refuse to the City Cleansing lorries were solely executed by the stall-holders who sincerely co-operated with the authorities in keeping the City Markets clean during this period, with the exception of Kandang Kerbau Market.

RETURNS

Daily and weekly returns were made to the Department of Fisheries showing weighing, place of origin and prices of fish passing through the Clyde Terrace and Ellenborough Markets. Monthly returns of the Average Market Prices were also made to the Department of Statistics, Singapore.

I attach the returns showing the quantity of Unsound Foodstuffs destroyed and a Summary of the Vacant Stalls as at 31st December, 1955.

KOH CHENG KHIANG, CERT. R.S.I.,

Acting Market Inspector.

SUMMARY OF UNSOUND FOODSTUFFS DESTROYED

FOR THE YEAR 1955

Market	FISH				MEAT			VEGETABLES AND FRUITS				POULTRY		Miscel- laneous
	Fresh	Shell	Boiled	Salted	Beef	Mutton	Pork	Fresh Vege- tables	Dry Vege- tables	Salted Vege- tables	Fresh Fruits	Live- stock	Eggs	
	Kattis	Kattis	Kattis	Kattis	Kattis	Lb.	Kattis	Kattis	Kattis	Kattis	Kattis	Heads	Tens	Kattis
Clyde Terrace ..	4,180	395	..	..	..	..	..	34,150	6,240	..	4,940	1,147	388	1,405
Ellenborough ..	16,460	6,255	..	..	..	..	..	15,510	16,500	..	4,045	778	645	1,870
Telok Ayer ..	560	6,290	..	..	..	..	..	46,110	24,000	..	11,470	219	286	4,060
Kandang Kerbau ..	710	1,294	..	410	..	..	..	3,635	..	..	3,850	540	192	..
Orchard Road ..	380	1,836	..	..	389	..	..	4,887	..	..	5,437	186	..	2,025
People's Park ..	..	..	..	..	70	..	117	20,432	1,680	..	..	840	..	..
Maxwell ..	449	346	..	..	181	97	98	205	2,105	..	164	1,353	89	..
Grange Road ..	372	..	..	..	..	..	..	1,440	..	..	1,881	..	44.5	1,588
Sims Avenue ..	1,083	636	..	..	..	..	..	1,724	..	..	924	165	83.0	2,653
Total ..	24,194	17,052	..	410	640	97	215	128,093	50,525	..	32,711	5,228	1,727.5	13,601

SUMMARY OF VACANT SLABS AND STALLS AS AT 31ST DECEMBER, 1955

Description	Clyde Terrace	Ellenborough	Telok Ayer	Kandang Kerbau	Orchard Road	People's Park	Maxwell Road	Grange Road	Sims Avenue	Remarks
FISH (a) Fresh ..	24	..	4	..	..	4	32	4	6	
(b) Boiled ..	..	..	..	..	..	..	..	..	..	
MEAT (a) Beef ..	..	..	..	..	..	..	1	..	..	
(b) Mutton ..	..	..	..	..	..	..	..	..	..	
(c) Pork ..	..	..	..	..	..	..	..	..	..	
(a) Fresh Vegetables, Fresh Fruits and Fresh Eggs ..	1	..	..	..	..	36	34	3	2	
(b) Salted Vegetables ..	..	..	..	..	..	..	..	1	..	
(c) Dry Vegetables and Fresh Eggs ..	..	..	..	..	..	..	..	..	..	
(d) Dry and Salted Vegetables ..	..	..	..	..	..	..	..	..	..	
POULTRY: Livestock ..	..	6	..	..	..	..	2	..	..	
Eggs ..	..	2	..	..	..	..	1	..	..	
Salt Fish and Dried Vegetables ..	..	..	..	..	..	1	4	2	7	
MISCELLANEOUS:—										
Beancakes ..	..	..	..	..	..	..	6	..	..	
Cleaned Ducks and Chickens and Dressed Poultry ..	..	..	..	..	..	1	2	..	..	
Ground Assorted Spices ..	..	..	1	..	..	1	..	..	..	
Fancy Fish ..	..	..	..	..	..	..	..	..	..	
HAWKERS: Eating—Large ..	..	..	..	..	..	..	..	..	..	
Cooked Food ..	..	..	..	..	..	..	..	..	..	
BLOCK ICE ..	..	..	..	..	..	..	..	..	..	
SODA FOUNTAIN ..	..	..	..	..	..	..	..	..	..	
FROZEN MEAT ..	..	..	..	..	..	..	..	..	..	
FROZEN MUTTON ..	..	..	..	..	..	..	..	..	..	
Total ..	25	8	5	..	..	43	82	10	15	

CITY ABATTOIRS

DURING the year 427,572 animals were slaughtered in the City Abattoirs: 355,209 were swine, 4,233 oxen, 2,482 buffaloes, 4 horses, 63,868 sheep and 1,776 goats.

192 swine, 6 oxen, 262 sheep and 3 goats died in the pens.

117 swine died in the depot.

25 swine, 40 oxen, 16 buffaloes and 57 sheep carcasses were totally condemned.

J. L. da SILVA, CERT. R.S.I.,
Superintendent of Abattoirs.

	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
Admitted for slaughter, 1955	355,487	4,233	2,462	4	64,214	1,774
Slaughtered 1955	355,209	4,233	2,482	4	63,868	1,776
Died in pens	192	6	—	—	262	3
Died in depot	117	—	—	—	—	—
Carcasses condemned	25	40	16	—	57	—
Diseased organs, etc. condemned and destroyed in tons	10.8	4.75	4.9	—	4.6	0.08

TOTAL RECEIPTS FOR THE YEAR 1955

	\$	c.
Fees for slaughter at Cattle section	20,097	00
Fees for slaughter at Sheep section	65,988	00
Fees for slaughter at Pig section	710,974	00
Fees for storage at French Road Dépôt	11,219	90
Fees for inspection of wild boar carcasses	318	00
Receipts for sale of blood	181	20
Receipts for sale of pigs' bristles	70	00
Receipts as pen rents (all slaughter houses)	26,999	60
Total Receipts for the year 1955	835,847	70
Less Refund of slaughter fees	325	00
	835,522	70
Total Receipts for the year 1954	753,844	75

Special slaughtering licences issued during the year 1955 (2 pigs @ \$10 each and 28 sheep and 10 goats @ \$5 each) ... \$210.00

ANIMALS SLAUGHTERED MONTHLY IN CITY ABATTOIRS DURING THE YEAR 1955

	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
January ..	28,033	388	186	1	5,362	184
February ..	23,414	358	202	..	4,735	139
March ..	26,683	448	143	..	5,229	153
April ..	29,210	477	124	..	5,621	151
May ..	29,461	505	177	..	5,328	153
June ..	29,407	291	194	..	4,879	132
July ..	30,133	328	203	1	5,367	126
August ..	33,235	398	131	..	5,174	143
September ..	29,781	246	276	..	4,707	167
October ..	30,927	332	231	2	5,361	147
November ..	31,236	307	224	..	6,077	139
December ..	33,689	155	391	..	6,028	142
Total slaughtered during 1955 ..	355,209	4,233	2,482	4	63,868	1,776
Total slaughtered during 1954 ..	318,575	4,389	1,825	13	60,868	2,237

CARCASES TOTALLY CONDEMNED DURING THE YEAR 1955

	Swine	Oxen	Buffaloes	Sheep	Goats
1. Cas. Lymphadenitis ..	..	..	..	1	..
2. Cysticercosis ..	4	..	..	..	..
3. Extreme Emaciation with Dropsy ..	..	2	..	1	..
4. Gangrenous Pneumonia ..	..	1	..	1	..
5. Generalised Bruising ..	..	..	..	5	..
6. Immaturity ..	..	1	..	..	..
7. Jaundice ..	1	..	..	9	..
8. Mastitis (Septic) ..	..	1	..	..	..
9. Pyrexia ..	17	1	..	37	..
10. Sarcosporidiosis ..	..	..	16	..	..
11. Septic Metritis ..	..	3	..	..	..
12. Septic Pericarditis ..	..	..	..	1	..
13. Septicaemia ..	2	1	..	2	..
14. Tuberculosis ..	1	30	..	..	..
Total cond. during 1955 ..	25	40	16	57	..
Total cond. during 1954 ..	25	44	2	109	1

REPORT FOR THE YEAR ENDING 31ST DECEMBER, 1955

	Swine	Oxen	Buffaloes	Horses	Sheep	Goats
Number slaughtered ...	355,209	4,233	2,482	4	63,868	1,776
Died in pens ...	192	6	—	—	262	3
Died in depot ...	117	—	—	—	—	—
Carcases condemned ...	25	40	16	—	57	—
Diseased organs, etc. condemned and destroyed in tons ...	10.8	4.75	4.9	—	4.6	0.08

CASES OF PARTIAL CONDEMNATION

	Swine	Oxen	Buffaloes	Sheep	Goats
Abscess	18,273	4	1	10	..
Adhesions	..	..	..	1	..
Angiomatosis	..	25	..	2	..
Bruising and/or Fracture	3,838	77	4	281	2
Cas. Lymphadenitis	..	..	..	9,153	..
Cirrhosis	96	2	4	74	2
Congestion	9,201	4	2	2,964	..
Cysticercosis	1	2	..	..	..
Cysts	124	2	1	190	5
Fascioliasis	..	1,998	1,013	2	120
Fatty Infiltration	33	7	..	1,312	2
Foot Rot	1	16	..	11	..
Hydronephrosis	143	2	..	1	..
Inflammation	418	1	834	224	..
Magots	2	..	..	44	..
Mastitis	3	13	..	..	..
Melanosis	1	..	..	19	..
Metritis	..	6	..	..	..
Necrosis	29	..	..	1	..
Nephritis	294	2	2	52	..
Onchocerciasis	..	380	..	..	..
Parasites	421	..	7	..	..
Pericarditis	34	1	1	13	..
Peritonitis	28	..	..	..	..
Pleurisy	668	5	10	218	..
Pneumonia	505	15	..	17	1
Pregnancy	38	142	52	1	7
Sarcosporidiosis	..	..	2,399	..	..
Strongylosis	4	3	1	649	..
Tuberculosis	..	157	..	..	..

ITEM OF INTEREST FOR THE YEAR, 1955

1. The revenue for the year was the highest ever—due mainly to the increase in the number of pigs slaughtered. This was because the type of pigs slaughtered were much smaller.
2. Refunding of slaughtering fees for animals that died while awaiting slaughter, commenced as from 1st September, 1955.
3. Chilling Rooms were closed down from 1st July, 1955 to 8th December, 1955 for repairs.
4. Chop Soon Lee of 62 New Bridge Road was the only firm that tendered for the hire of the Chilling Rooms. His tender was \$700 per month, compared with \$2,750 per month which he had previously paid.

SANITARY INSPECTORS SECTION

STAFF

Four probationary Sanitary Inspectors attended as candidates for a period of nine months, the Royal Sanitary Institute Course which began on the 1st February, 1955. All the candidates were successful in the examination which was held in November 1955.

The staff as at 31st December, 1955 is as follows:—

C.S.I.	D.S.Is.	S.S.Is.	F. and D.Is.	Q.S.Is.	P.S.Is.	Total
1	2	4	3	25	4	39

SANITARY WORK

Kampong Inspection

Kampong inspections were carried out in connection with:—

- (a) Kampong Sanitation;
- (b) Enforcement of the Swine By-laws;
- (c) Checking new huts within the City area;
- (d) Checking new structures other than huts in dwelling houses within the City Area;
- (e) Selection of sites for the erection of standpipes.

304 days were spent during which 4,393 premises were inspected.

Complaints

A total of 1,262 complaints were received from the public involving 13,845 visits.

Complaints	No. of Complaints	Primary Visits	Revisits	Total visits and revisits
Mosquito	670	5,438	} 6,060	13,845
Other	592	2,347		

Mosquito breeding was found in 1,581 premises.

Infectious Diseases

The following cases of infectious diseases were investigated.

Polio- myelitis	Diphtheria	Chicken- pox	Typhus	C.S.M.	Leprosy	Typhoid
9	347	1,687	4	1	129	100

In connection with the above, the following work was carried out.

Diphtheria Throat Swabs	Removal to Middleton Hospital	Barrier spraying re Poliomyelitis	Total Visits
2,472	823	9	2,829

Notices

The following is a summary of notices served.

Type of Notice	B/f	Served	Total	Complied with	Can- celled	C/f
Intimations ...	169	865	1,034	764	194	76
Limewash ...	26	101	127	126	—	1
Nuisance Notice ...	43	113	156	102	2	52
Abatement Order ...	2	3	5	2	—	3
Prohibition Order ...	—	—	—	—	—	—
Well Notice ...	10	16	26	26	—	—
Total ...	250	1,098	1,348	1,020	196	132

Food and Drugs

853 samples were taken by the Sanitary Staff for chemical analysis, bacteriological examination and other breaches of the Food and Drugs Regulations, of which 451 samples were taken by the Sanitary Inspectors and the remaining 402 by the Food and Drugs Inspectors. 104 samples were also taken for bacteriological examination. For details, please see Appendix I, Table A.

Routine inspection of premises in connection with unsound food was carried out by the Food and Drugs Inspectors involving 5,212 visits. For summary of foodstuffs surrendered and destroyed, please see Table B of Appendix I.

Inspection of Premises

Inspections carried out on other classes of premises not included in the above, total 35,865 visits as follows:—

Sauce Factories	...	...	...	202
Oilmills	...	...	...	102
Sawmills	...	...	...	69
Places of Entertainment	...	...	...	353
City Markets	...	...	...	414
Private Markets	...	...	...	233
Coffee Grinding Mills	...	...	...	56
Printing Press	...	...	...	365
Licensed Premises	...	...	...	24,659
Public Houses	...	...	...	654
Labour Ordinance	...	...	...	212
Daily Fines	...	...	...	123
Serving Notices	...	...	...	868
Inspecting Notices	...	...	...	1,230
Cautioning Cases	...	...	...	299
Unlicensed Premises	...	...	...	1,782
Goldsmiths	...	...	...	26
Dry Cleaners	...	...	...	24
Smoke Observations	...	...	...	18
Foundries	...	...	...	34
Other Premises	...	...	...	4,142
Total				<u>35,865</u>

In connection with the visits to:—

- (a) Places of Entertainment;
- (b) Printing Presses;
- (c) Public Houses;
- (d) Native Passenger Lodging Houses,

these inspections were made generally for the purpose of putting up recommendations with regard to the licensing, registration or renewal of licences under the control respectively of (1) Police Department (2) Chief Secretary (3) Customs Department (Board of Licensing Justices) (4) Criminal Investigation Department (Special Branch).

During the year, 198 plans were received from the City Architect and Building Surveyors Department, for comments generally with regard to the drainage, sanitary accommodation, working facilities and the siting of septic tanks including the discharge of the effluent. The number of inspections made in this connection are included under the heading of 'Other Premises'.

Reports to other Departments

A total of 726 reports were made to various departments in the City Council with regard to irregularities observed during the course of the Sanitary Inspectors' rounds:—

City Cleansing Department	...	...	226
City Sewerage Department	...	...	68
City Building Department	...	...	320
Other Departments	...	...	112
	Total	...	726

Offences and Prosecutions

457 summonses were applied for all types of infringements of the Ordinance and By-laws.

Court proceeding took up 206 man working days. There were 505 prosecutions (including 12 Police cases for illegal slaughter) with 409 convictions. 16 summonses were withdrawn and 80 not served. Total fines amounted to \$17,178.00

Meat Inspection

Owing to the shortage of the staff at the City Abattoirs, 1 Sanitary Inspector was seconded for duty at the pig abattoirs on a weekly roster, from the beginning of the year. Additional Inspectors were also sent to relieve the staff who went on leave or to assist in the inspection of the large number of animals slaughtered during several periods throughout the year.

Plague Prevention Section

Total Number of rats caught in the City Area	...	4,589
Number of Fleas combed from the rats	...	2,897

Cemetery Section

Burial in Public Cemeteries	...	...	5,526 (178)*
Burial in Private Cemeteries	...	...	632
		Total	6,158 (178)*
Exhumations	...	...	13

For Number of Burials by Race see Table C.

Figure in brackets denotes cremations.

GENERAL

Strikes by City Council Labourers—16th August—31st August

During the period 16th August to the 26th August ten Sanitary Inspectors were seconded to the City Cleansing Department for full time work as supervisors in the collection and disposal of refuse.

The remaining Sanitary Inspectors were all employed on special duties in connection with the Sanitary problems caused by the strike. Apart from the normal investigation and removal to Middleton Hospital of Infectious disease cases only the following work was carried out:—

- (a) Spraying with Gammexane collections and dumps of refuse in various parts of the City to prevent fly breeding until removed by the City Cleansing Department.
- (b) Preparing daily lists of refuse dumps within the City Limits for removal by the City Cleansing Department.
- (c) Supervising the clearance of choked drains and culverts.
- (d) Prevention of fly breeding in the City Cleansing dumping grounds at Bendemeer. In this connection the specially equipped Jeeps for mechanical spraying of insecticides, operated by the Sanitary Inspectors were used daily.
- (e) Removal of refuse from all public and private markets daily until such time when the City Cleansing Department was able to undertake their normal removal.

* Includes 2 burials of ashes.

Bus Strikes

Due to the bus strikes—a temporary bus terminus was erected in Waterloo Street to provide transport for School Children. 8 Temporary latrines were set up by the City Cleansing Department. Numerous hawkers also congregated at this spot. It was the duty of the Health Department to keep down flies and prevent fly breeding. The “Dorman” sprayer was used to spray the whole area regularly with “Gammexane” until the schools closed for the Christmas holidays on 2nd December, 1955.

Kampong Silat Fire

As a result of fire in the month of September, more than two acres of land, in the heart of the kampong became a potential breeding ground for flies and mosquitoes. Numerous domestic animals and poultry had been trapped in the fire and their partly buried carcasses amongst the debris started putrifying immediately. Regular spraying with the “Dorman” Sprayer at 4 day intervals for almost a month kept the nuisance in abeyance. Forty Gallons of “Gammexane” was sprayed each time by the Sanitary Inspector incharge of the area.

Due to the above fire numerous victims were housed temporarily in the Kallang Airport Terminal Building. Residual spraying of the premises with “Dioldrex” using the swing fog mechanical generator was carried out.

Food and Drugs

Re Chinese and Indian Drugs. As a result of Court action, great difficulty is now experienced in procuring further samples of similar drugs. They are no longer being openly exposed for sale in Chinese and Indian Medicine Shops.

Some Importers, however, have privately submitted samples for Analysis prior to putting their Medicines on the Market.

Re Lead Solder being exposed Internally in cans. In a number of Canned Powdered and Evaporated Milk, the containers were found to have solder covering vent-holes resulting in lead being exposed internally in the can. The City Health Officer referred this matter to the Director of Medical Services, who advised that the existing Regulation 33 (2) should not be enforced as it was considered unreasonable and also to the fact that another regulation had been submitted in its place in the draft amendment to The Food and Drug Regulation.

In order to improve the unsatisfactory system of Control of Importation of Skimmed and Butter Milk powders into the Colony, The Deputy Director of Commerce and Industries, The Controller of Imports and Exports, The Senior Assistant Health Officer and The Chief Food and Drugs Inspector held several discussions to devise ways and means of improving the existing measures. The present system seems satisfactory.

Checks were made on Aerated Waters and Syrup Factories on the labelling of their products. In many instances they were found to be misleading or otherwise giving a false impression to the purchaser, in that the labels bore pictorial illustrations of fruits and described as fruit and fruit juices, while the products, contained only synthetic or flavoured matter. The managers of the various firms were advised accordingly and formally informed by letters of the infringements of the Food and Drugs Ordinance. They were given till 1st January, 1956 to use up all their labels.

On information received from Mr. A. F. Caldwell, Senior lecturer in Pharmacy, University of Malaya, re symptoms of poisoning observed in a number of persons admitted into the General Hospital after partaking curry flavoured with Japanese Star Anise, investigations were carried out together

with the City Analyst and Samples taken, and after examination and tests the City Analyst confirmed the toxicity of the product. No action was taken pending instructions from the Director of Medical Services, whose attention has been drawn to by the Acting Health Officer.

During the year there were 9,959 man working days which were spent as follows:—

Sanitary Work	Abattoirs	Burial Grounds	Sick Leave	Infectious Diseases Duties	Vacation Leave
8,003	457	230	57	365	847

The total number of visits during the year covering all categories of work was 62,144.

A. N. CHATTERJI, CERT. R.S.I.,
Acting Chief Sanitary Inspector.

APPENDIX I

Table A

SAMPLES SUBMITTED FOR CHEMICAL ANALYSIS 1955

<i>Milk and Milk Products</i>				<i>Carbonated Drinks and Non-Carbonated Drinks</i>			
Milk	...	...	161	Soda Water	...	...	76
Sweetened Condensed Milk	...	...	30	Syrups and Cordials	...	...	34
Evaporated Milk	...	...	18	Aerated Waters	...	...	71
Full Cream Milk Powder	...	...	3	Fruits Juices	...	...	3
Butter	...	...	4	Non-Carbonated Drinks	...	...	7
Cheese	...	...	3	Other Beverages	...	...	2
Ghee	...	...	4				
Skimmed Milk Powder	...	...	1				193
Other Milk Products	...	...	2				
			226				
<i>Edible Fats and Oil</i>				<i>Sauces</i>			
Ground Nut Oil	...	...	2	Sauce Mixture	...	...	1
Gingelly Oil	...	...	9	Soya Bean Sauce	...	...	19
Cooking Products (Fats)	...	...	6	Chilly Sauce	...	...	2
Almond Oil	...	...	1	Tomato Sauce	...	...	1
Olive Oil	...	...	1				23
			19				
<i>Spices and Condiments</i>				<i>Vinegars</i>			
Turmeric Powder	...	...	1	Rice Vinegar	...	...	1
Chilly Powder	...	...	1	Artificial Vinegar	...	...	2
Pepper Powder	...	...	2				3
Pepper Mixture	...	...	5				
Other Spices	...	...	2				
			11				
<i>Coffee, Coffee Mixtures, Coffee Extracts, Tea and Cocoa</i>				<i>Confectionery</i>			
Coffee Powder	...	...	3	Sweets	...	...	5
Coffee Mixture	...	...	58				
Tea Leaves	...	...	9				
Tea Dust	...	...	4				
			74				
<i>Beverages</i>				<i>Meat and Meat Products</i>			
Beer	...	...	12	Sausages	...	...	4
Stout	...	...	4	Other Canned Meat	...	...	7
			16				11
				<i>Fish and Fish Products</i>			
				Canned Sardines	...	...	5
				Other Canned Fish	...	...	2
							7
				<i>Shell Fish Products</i>			
				Canned Abalone	...	...	1

APPENDIX I—continued

Fruit and Vegetable Products

Canned Fruits ...	14
Jam ...	2
Canned Vegetables ...	23
	39

Miscellaneous

Well Water ...	136
Pineapple Cubes ...	3
Ice Cream ...	1
Popsicle ...	2
Tap Water ...	4
	146

Cereals, Beans, etc.

Wheat Flour ...	5
Rice ...	2
Maize Powder ...	1
Other Food Products ...	4
	12

Drugs

B.P. or B.P.C. Drugs ...	36
Proprietary Drugs ...	6
Chinese Drugs ...	13
Indian Drugs ...	12
	67

Grand Total ... 853

SAMPLES TAKEN FOR BACTERIOLOGICAL EXAMINATION

Ice Cream ...	36
Popsicles ...	37
Lollipops ...	8
Milk ...	21
Beanectar ...	2
Total ...	104

Table B

SUMMARY OF FOODSTUFFS SURRENDERED AND DESTROYED

Crates	Cases	Boxes/ Packages	Tins	Bottles/ Jars	FOOD BY WEIGHT	
					Katties	Pounds
..	..	16	15,857	136	34 Tons 3 qrs.	17 cwt. 8½ lb.

91 bottles and 164 phials of Chinese Drugs were also surrendered and destroyed.

Table C
BURIAL GROUNDS

1955				Burials and Cremations made in City Cemeteries and licensed burial grounds in City Area	Exhumations
Europeans	..	..	..	54	..
Eurasians	..	..	..	84	..
Chinese ..	..	..	..	(a) 4,088 (5)	13
Malays ..	..	..	..	1,227	..
Indians ..	..	..	..	644 (172)	..
Others ..	..	..	..	(b) 61 (1)	..
Total ..				6,158 (178)	13

(a) Includes one burial of ashes.

(b) Includes one burial of ashes.

RETURN OF LICENCES ISSUED UNDER THE FOOD SHOP BY-LAWS

DURING THE YEAR 1955

Nature of Licence	Per Annum \$	Number Issued	Cash Received \$ c.	DETAILS OF LICENCES ISSUED											Re-issue	
				For One Year	For One Month	For 2 Months	For 3 Months	For 4 Months	For 5 Months	For 6 Months	For 7 Months	For 8 Months	For 9 Months	For 10 Months		For 11 Months
Eating House	48	944	44,224 00	897	5	4	3	3	4	3	5	7	3	8	2	19
Restaurant	48	331	15,112 00	301	3	1	5	2	..	10	..	3	6	..	..	12
Coffee Shop	48	156	7,128 00	143	3	1	2	2	..	..	..	3	1	2	1	4
Iced Water and Cold Drinks	48	45	2,100 00	42	..	..	..	..	..	1	1	1	..	..	..	..
Soda Fountain	48	8	384 00	8	..	..	..	..	..	..	..	..	..	..	..	..
Meat Shop	48	106	4,956 00	101	..	1	..	1	..	1	1	1	..	..	..	2
Possession of Wild Boar Flesh	48	3	144 00	3	..	..	..	..	..	..	..	..	..	..	..	..
Milk Seller	12	34	408 00	34	..	..	..	..	..	..	..	..	..	..	..	..
Aerated Water Factory	48	12	576 00	12	..	..	..	..	..	..	..	..	..	..	..	..
Bakery	48	29	1,352 00	27	..	..	1	..	..	..	..	..	..	..	1	1
Biscuit Factory	48	4	192 00	4	..	..	..	..	..	..	..	..	..	..	..	..
Cake Shop	48	35	1,628 00	33	..	..	..	..	1	1	..	..	..	..	..	2
Ice Cream Factory	48	7	272 00	5	..	1	..	..	..	1	..	..	..	..	..	1
Ice Popsicle Manufactory	48	1	48 00	1	..	..	..	..	..	..	..	1	..	..	..	..
Syrup Making Shop	48	4	132 00	2	1	..	..	..	..	..	..	..	..	..	..	..
Sweets Making Shop	48	10	480 00	10	..	..	..	..	..	..	..	..	..	..	..	..
Margarine Factory	48	2	96 00	2	..	..	..	..	..	..	..	..	..	..	..	..
Confectionery	48	1	48 00	1	..	..	..	..	..	..	..	..	..	..	..	..
Food Shop	48	30	1,416 00	28	..	..	..	..	..	..	..	1	..	1	..	..
Food Caterer	48	1	48 00	1	..	..	..	..	..	..	..	..	..	..	..	..
Dairy Shop	48	5	188 00	3	..	..	..	..	1	..	1	..	..	..	..	..
Soya Bean Milk Factory	48	1	40 00	..	..	..	..	..	..	..	..	..	..	1	..	..
Total		1,769	80,972 00	1,658	12	8	11	9	5	17	9	14	10	12	4	41

RETURN OF LICENCES ISSUED UNDER THE OFFENSIVE TRADE BY-LAWS

DURING THE YEAR 1955

Nature of Licence	Per Annum \$	Number Issued	Cash Received \$ c.	DETAILS OF LICENCES ISSUED											Re-issue		
				For One Year	For One Month	For 2 Months	For 3 Months	For 4 Months	For 5 Months	For 6 Months	For 7 Months	For 8 Months	For 9 Months	For 10 Months		For 11 Months	
Private Market ..	600	8	4,900 00	8	..	..	..	..	..	..	..	..	..	..	..	..	..
Importation of Meat ..	..	14	6,702 08	14	..	..	..	..	..	..	..	..	..	..	..	..	..
Sick Receiving House ..	.. 1	4	4 00	4	..	..	..	..	..	..	..	..	..	..	..	..	..
Charcoal Making ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Blachan Store ..	36	2	72 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Brick Kiln ..	75	2	150 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Coffee Roasting Factory ..	18	6	108 00	6	..	..	..	..	..	..	..	..	..	..	..	..	..
Dye House ..	18	5	90 00	5	..	..	..	..	..	..	..	..	..	..	..	..	..
Drying and Sorting Fish ..	54	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fruit Preserving ..	75	2	150 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Knacker's Yard ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lime Making ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Lye Making ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Laundry ..	12	322	3,864 00	322	..	..	..	..	..	..	..	..	..	..	..	..	2
Oil Mill ..	18	15	252 00	13	..	..	..	..	..	..	..	..	..	..	..	..	1
Offal Boiling ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pottery Works ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rags and Bones Store ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Refining Precious Metals by the Acid Process ..	18	9	162 00	9	..	..	..	..	..	..	..	..	..	..	..	..	..
Sago Factory ..	75	4	300 00	4	..	..	..	..	..	..	..	..	..	..	..	..	..
Sauce Factory ..	18	19	324 00	17	..	..	..	..	..	..	..	2	..	..	..	..	1
Sauce Mixture Factory ..	18	2	36 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Sheep or Goat Pen ..	18	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Soap Boiling ..	18	6	108 00	6	..	..	..	..	..	..	..	..	..	..	..	..	..
Sugar Boiling ..	75	2	150 00	2	..	..	..	..	..	..	..	..	..	..	..	..	..
Tannery ..	75	3	225 00	3	..	..	..	..	..	..	..	..	..	..	..	..	..
CATTLESHEDS, PONYSTABLES, COWSHEDS:																	
9 Animals and Under per head @ ..	1.50	1	7 50	1	..	..	..	..	..	..	..	..	..	..	..	..	..
10—14 Animals ..	15.00	1	15 00	1	..	..	..	..	..	..	..	..	..	..	..	..	..
15—24 Animals ..	22.50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
25—50 Animals ..	37.50	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Over 50 Animals ..	75.00	1	75 00	1	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..		428	17,694 58	424	..	..	..	..	..	..	..	4	..	..	..	..	4

HEALTH DEPARTMENT

RETURN OF PROSECUTIONS FOR THE YEAR 1955

Offences	TOTAL					Remarks
	Prosecutions	Withdrawn	Not Served	Convictions	Fines	
MUNICIPAL ORDINANCE						
Establishing a private market ..	4	..	..	4	\$ 50 00	
Unlicensed Offensive Trades ..	70	5	19	46	1,985 00	
Filthy Premises ..	6	..	..	6	105 00	
Limewash notice not complied with ..	1	..	1	..	..	
Non-compliance with Nuisance Notice ..	7	..	..	7	250 00	
Non-compliance with Prohibition Order ..	1	..	..	1	100 00	
Non-compliance with Well Notice ..	10	..	..	10	130 00	
BYELAWS-SECTIONS 58 AND 211 M.O.						
Unlicensed Foodshops ..	165	3	10	152	5,358 00	
Unlicensed Milk Vendors ..	49	1	28	20	345 00	
Keeping swine in a prohibited area ..	3	..	2	1	125 00	
Abetting the offence of Unlicensed Foodshop ..	1	..	..	1	75 00	
Breaches of the Foodshop Byelaws ..	19	..	..	19	365 00	
MARKETS AND SLAUGHTER HOUSES						
Possessing die and other instruments for counterfeiting Slaughter House Mark ..	2	1	..	1	200 00	
Possessing for sale pig carcasses with a false Slaughter House Mark ..	24	1	..	23	1,405 00	12 Police Arrest Cases
Marking carcasses of pig with a Slaughter House Mark ..	21	..	..	21	290 00	
Counterfeiting Slaughter House Mark ..	1	..	..	1	350 00	
Marking carcasses of pig with a Slaughter House Mark ..	2	1	..	1	200 00	

RETURN OF PROSECUTIONS FOR THE YEAR 1955—continued

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Offences	TOTAL					Remarks
	Prosecutions	Withdrawn	Not Served	Convictions	Fines	
					\$ c.	
SALE OF FOOD AND DRUGS ORDINANCE						
Selling Adulterated Milk .. Section 11-1	28	1	15	12	620 00	
Selling Pep Tab Tablets with false labels .. " 11-1	1	..	..	1	100 00	
Selling Vinegar with false labels .. " 11-1	1	..	..	1	100 00	
Selling Barley Water containing Saccharin. " 11-1	1	..	..	1	10 00	
Selling Milk Deficient in Fat .. " 11-1	2	..	1	1	1,000 00	
Selling a drug "Yim Seah San" containing lead .. " 11-1	9	..	2	7	320 00	
Selling Adulterated Chinese Drug "Pai Pau Chin Foong San" .. " 11-1	6	1	..	5	300 00	
Selling Desiccated Coconut bearing a false label .. " 11-1	1	..	..	1	35 00	
Selling Adulterated Coffee Mixture .. " 11-1	28	..	..	28	1,290 00	
Selling Adulterated Coffee Powder .. " 11-1	2	..	1	1	75 00	
Selling Aerated Water containing Saccharin. Reg. 23	5	..	..	5	415 00	
Selling Almond Syrup containing Saccharin. " 23	1	..	..	1	20 00	
Selling Barley Syrup containing Saccharin. " 23	3	..	..	3	130 00	
Selling Soya Bean Sauce containing Saccharin. " 23	3	..	..	3	130 00	
Selling Orange Syrup (Orange Crush) containing Saccharin. .. " 23	1	..	..	1	50 00	
Selling Canned Lichee in tin containers of such a construction that surfaces of solder are exposed internally .. " 23	4	..	..	4	85 00	
Selling a drug "Yim Si San" containing lead Section 11-1	1	..	..	1	175 00	
Selling Vitamin B ₁ bearing a false label .. " 11-1	5	..	..	5	220 00	
Selling Pepper Mixture bearing a false label .. " 11-1	3	..	..	3	150 00	
Selling Adulterated drug "Poh In Tan" .. " 11-1	3	..	..	3	180 00	
Selling Adulterated "Kasturi" Pills .. " 11-1	1	..	..	1	200 00	

HEALTH DEPARTMENT—continued
 RETURN OF PROSECUTIONS FOR THE YEAR 1955—continued

Offences	TOTAL				Remarks
	Prosecutions	Withdrawn	Not Served	Convictions	Fines
SALE OF FOOD AND DRUGS ORDINANCE—contd. Selling a drug "Poe Kow In" containing lead Section 11-1 Breaches of Food and Drug Ordinance .. " 17	1	..	..	1	\$ 30 00
	1	..	1	..	..
	6	1	..	5	10 00
Q. AND P. DISEASE ORDINANCE Failing to have child vaccinated .. Section 43-1					

SUMMARY				
Total Prosecutions	..	..	505	
" Withdrawn	..	..	16	
" Not Served	..	..	80	
" Convictions	..	..	409	
" Fines	..	..	\$17,178.00	
" Fees	..	..	\$198.00	

N.B.—Fees are not included in the amount of fines.

ANNUAL REPORT—DISPENSARIES 1955

1955 WAS A very busy year for the dispensaries, larger attendances being recorded in all the three City Dispensaries, both as regards permanent staff and daily rated employees. A greater awareness of the free medical facilities provided for them seems to exist and a greater degree of positive health consciousness seems to prevail. These are encouraging trends and every effort is being made to foster them, as the greater the awareness, the smaller the incidence of illness morbidity and a healthy staff population is a 'sine qua non' for an efficient staff standard. In this, we are aided to a considerable extent by the recently introduced 'card system'.

The Card System.—This is a system of systematic recording of medical histories including physical examinations and the results of clinical investigations and diagnostic procedures. The doctor is made aware of relevant details of previous illnesses at a glance and is thus able to have a more rounded picture of the patients' medical personality. Better individualised attention is possible and it conduces to a more satisfactory doctor—patient relationship. It further aids us to make fair and proper recommendations to the different departments regarding medical leave, occupational diseases, desirable changes in jobs, fitness for certain types of work etc.

While the patient benefits in every way from this system and the doctor is significantly aided in his professional capacity, this system throws considerable strain on the dispensary staff, especially in the administrative field. The staff position has had to be improved at all levels and it may be necessary to increase the strength further to give efficient service.

During the year under review, the emplacement on the card system of all daily rated employees of the City Council and S.I.T. stationed in Singapore was completed. (Total No. as at close of 1955 = 9,299). The stage is now set to expand the system to take in the Junior and Subordinate staff also. (Total No. 2,897).

Staff Position

(a) *Doctors* 3 on the P.E. and 1 Temporary.

(b) *Hospital Assistants*

1. 1 Chief Hospital Assistant.
2. 2 Senior Hospital Assistants.
3. 1 Dispenser (shared with M. and I.W. Department).
4. 7 Hospital Assistants.

(c) *Clerks* 3 (temporary).

(d) *Attendants* 7.

Staff Changes.—1. Dr. Manoharan entered the permanent service as Assistant Health Officer attached to the main section of the Health Department on 1st April, 1955 and Dr. T. I. Williams was recruited to fill the temporary post.

2. Mr. Victor James resigned and Mr. Dhamoo, Hospital Assistant attached to Water Department (Gunong Pulai), was transferred to this Department to fill the vacancy.

Dispensaries.—Two up-to-date dispensaries were built at Lorong Lalat and Alexandra Road, close to the labourers' quarters and the dispensaries started functioning in these new buildings during the year. However, Lorong Lalat Dispensary, which has 6,200 cards registered there, does not provide enough 'elbow-room' for dealing with the normally large attendances there and a new dispensary in the Kolam Ayer area may be necessary to relieve congestion at this dispensary. Plans have been submitted for the re-construction of City Hall Dispensary and it is hoped that a better disposition of available space will conduce to better treatment facilities and greater efficiency.

Co-ordination between dispensaries has improved, medical procedures are more systematic and uniform and the three dispensaries are administratively geared to function as one medical unit.

Table I

A COMPARATIVE TABLE SHOWING FIGURES FOR ATTENDANCES AT THE DISPENSARIES AND SICK DAYS LOST

	City Hall Disp.			Lorong Lalat			Alexandra Road			Total		
	1955	1954	1953	1955	1954	1953	1955	1954	1953	1955	1954	1953
Total Attendances	27,840	27,817	36,903	51,661	44,528	50,780	34,889	21,455	10,146	114,390	93,790	97,829
Total Sick Days ..	21,446	22,083	33,028	34,684	36,880	52,170	10,886	9,564	5,936	67,016	68,527	91,134
Average Sick Days per new attendance ..	..	..	..	..	..	..	..	..	..	1.96	1.94	2.21

Table II

PRIVATE PRACTITIONERS

	1955	1954	1953
Number of Cases	8,505	6,531	6,461
Number of Sick Days	24,860	22,050	24,251
Average Number of Sick Days ..	2.92	3.37	3.75

Table I.—1. An overall increase of 20,590 is registered in attendances at Dispensaries. This clearly indicates that larger numbers are taking advantage of the better system of follow up now practised.

2. Despite larger attendances, the number of Sick Days due to medical officers granting leave has been reduced by 1,511 compared to 1954 and 24,118 compared to 1953.

3. Taking the figures dispensary—wise (compared to 1954 figures):—
- (a) *City Hall*.—Approximately same No. of attendances. Reduction in Sick Days by 637 over 1954.
 - (b) *Lorong Lalat*.—Increase in attendance 7,133. Reduction in Sick Days 2,196.
 - (c) *Alexandra Road*.—Increase in attendance 13,434 (62 per cent). Increase in Sick Days 1,322 (13 per cent).

Table II.—Larger numbers have gone to private clinics (1974 over 1954) and sick days granted by Private Practitioners have also increased (2,810 over 1954).

Provident Fund Examinations.—During the year, the subordinate staff were admitted to the Provident Fund. All of them were medically examined prior to admission. The majority of the Singapore Fire Brigade staff were examined at their respective stations.

Altogether 2,612 examinations were made to assess physical fitness prior to entry into the service and/or the Provident Fund (1954 = 1,800).

Home Visits.—Medical Officers in charge of Staff made a total of 166 visits to patients' homes as compared to 92 in 1954.

Chief Causes of sickness in employees attending City Dispensaries:

(TOTAL NUMBER OF NEW ILLNESSES—FIRST VISIT=34,191)

Accidents and Injuries ...	...	7,312	i.e. 21.4% of first visits for illnesses.
Short fevers	...	7,707	
Diseases of Respiratory System	...	2,358	
Diseases of the Skin	...	1,608	
Diseases of the Digestive System	...	2,870	
Diseases of the Eye	...	1,281	
Diseases of ENT and Mouth	...	2,192	
Cardio-Vascular Diseases	...	62	
Anaemia	...	1,051	
Nephritis	...	115	
Diabetes Mellitus	...	108	
Venereal Diseases	...	97	

One case of Benign Tertian Malaria was detected and treated, the source of infection being traced to Johore.

Twenty new cases of Pulmonary Tuberculosis were detected and referred to Tan Tock Seng Hospital for treatment.

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Medical Officers in charge of Staff.

